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Population distribution and interregional migration in Kazakhstan

Master Thesis

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Population distribution and interregional migration in Kazakhstan

Abstract:

As a consequence of considerable regional disparities in socio–economic development the incidence of migration varies substantially between sections of the Kazakhstani population, between parts of the national territory and over time. In this diploma thesis we attempt to find out the recent evidence concerning variations in mobility within Kazakhstan and the way these variations have an effect on population distribution. The aim is to try to outline the major trends of migration between regions and determine main push and pull factors of the interregional migration, especially the case of rural to urban movements. Among the key features identified are the changing importance of the various spatial patterns of population localization and wide differential in migration propensities and patterns between people according to age and gender, position in the family, life cycle, occupation and education.

Keywords: interregional migration, regional disparities, territorial distribution

Распределение населения и внутрирегиональная миграция в Казахстане

Абстракт

Вследствие существенных социально–экономических различии в развитии регионов, миграционные процессы внутри Казахстана и между различными слоями населения страны варируются значительным образом. В данной работе мы попытаемся установить изменения касающиеся мобильности населения в Казахстане, а также степень воздействия этих вариации на разпределение населения по территории страны. Цель этой работы заключается в попытке выяснить основные тенденции межрегиональной миграции и более того в определении наиболее важных факторов побуждающих людей менять свое место жительства. Среди ключевых свойств выявленных в ходе изучения наиболее значительными являются изменения пространственных моделей локализации населения и широкой дифференциации причин и характеристик мигрантов в зависимости от возраста, пола, положения в семье, профессии и образования.

Ключевые слова: межрегиональная миграция, социально–экономических различия, территориальное распределение.

Contents

List of Abbreviations

IM – In-migration

OT – Out-migration

GRP – Gross Regional Product

GDP – Gross Domestic Product

TFR – Total Fertility Rate

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Chapter 1
Introduction

Migration, or population mobility, is an important social phenomenon for a country's development and the case of Kazakhstan is a striking example. Not even going too deep to the history but just quick analysis of migration's role from the beginning of 20th century till nowadays would show how profoundly was affected the size, structure and ethnic composition of the population in Kazakhstan by migration processes.

Establishment of the Soviet rule and related to this process economic and social changes as industrial modernization and the collectivization of the early 1930s with subsequent famine led to disastrous alterations of ethnic balance and a significant fall in Kazakh's numbers due to deaths and migration out of the USSR. The quite dramatic events related to migration to Kazakhstan also took place in the mid 1950s. In 1954 a new turmoil descended to the Republic – the Virgin Lands campaign initiated by Khrushchev which resulted in the new massive immigration to Kazakhstan from European part of the USSR Slavic and other nationalities to upturn virgin lands in the country. In combination with the inflow of new migrants this created a situation in which the Slavic and Kazakh populations were virtually equal in numbers, and the general trend was now working against the Kazakhs. As a result the ethnic balance in Kazakhstan was adversely affected, with Kazakhs becoming a minority in their own republic. By 1959 Kazakhs amounted to only 30% of the total population. Not surprisingly, the impact of the Virgin Lands campaign on the Kazakh consciousness remains extremely negative. This campaign, conducted exclusively on the basis of economic considerations, is still perceived in Kazakhstan as forcible justification (M. Alexandrov, 1999). It was not until 1989 that Kazakhs managed to reverse the ethnic balance in their favor (Gillette, 1993).

Since the early 1990s, as a result of political independence, economic and social conditions in Kazakhstan have drastically fluctuated. Following independence on December 16th, 1991, Kazakhstan's economy contracted by more than 50%, in part due to the loss of pre–independence GDP that came from transfers from the central Soviet government, as well as a loss of trading partners from the former Soviet Union and the effects of transitioning from a centrally–planned to a rudimentary market economy. Consequently Kazakhstan experienced massive out–migration of non–Kazakh ethnics which is resulted in loss of significant part of the skilled population, especially from the North and Central regions of the country.

There are several remarkable works devoted to the study of international migration in Kazakhstan (Becker et al, 2003; Sadovskaya, 2005; CMAR and UNFPA, 2006, Becker,

Musabek, 2005) which analysed impact of the external migration to socio–demographic situation in the country.

However, in this diploma thesis we will investigate population mobility within the country and try to analyse the main determinants of interregional migration in Kazakhstan. It is obvious that internal movements are important components of population change and distribution. In this connection this work outlines the major specifics of territorial distribution of the population.

Migrants move from regions with high unemployment and low incomes to regions with higher wages and better employment prospects. In this manner, migration helps regions adjust to asymmetric shocks in their economy.

The role of migration is also important in facilitating regional adjustment or in contrast deepening the disparities between the regions, particularly for countries undergoing fundamental structural changes as Kazakhstan. After the collapse of the Soviet Union, Kazakhstan initiated economic reforms with essentially no official unemployment. Moreover, the subsequent transition from central planning to a market economy was accompanied by dramatic and largely asymmetric economic developments (Repkine and Walsh, 1999). In turn, these developments lead to increasing regional disparities, the widening gaps between prosperous and depressed regions and as a result increase in intensity of interregional migration from the depressive regions with the absence of social and economic infrastructure to more developed regions, and from rural to urban areas in order to escape poverty and unemployment. Another reason for significant change of migration flows within country was the relocation of the capital city from Almaty to Astana in 1997. Transfer of the capital city was accompanied with boom of construction in the city which attracted many workers from other regions, especially from the closest oblasts such as Akmola, Kostanai, Karaganda, moreover the relocation of administrative duties of the capital city from Almaty lead to migration of great numbers of civil servants with their families to Astana. Thus, with stabilization of economy in the beginning of the 2000s combining with other political–administrative reforms, motives pushing migrants from one region and pulling to another and social characteristics of migrants have gradually changed. In this diploma thesis our analyses mainly concern interregional migration i.e. population mobility between main 14 districts and 2 municipal cities.

After reviewing the theoretical literature on migration in the following section, the analysis of data on interregional migration and recent socio–economic development of the regions is discussed in Sections 3 and 4 respectively. Section 5 examines the relationship between migration and regional income, unemployment and GRP per capita differentials, volume, patterns and direction of interregional migration flows, also the effect of the capital city relocation is examined in this section. Finally, the main conclusions are summarized in the last section.

1.1 Research goal

The analysis of internal (inter–regional and intra–regional) migration considering some specific characteristics of a population as a number, sex and age of persons entering or leaving a particular region during a specified period of time is important for evaluating the reasons of

mobility and identifying the main trends and directions of migration flows in a country. Finding this kind of information on population's movement in proper time and making right decisions, reforms could be essential for economic and political development and national security of a country. The striking example of such changes could be the relocation of our capital city from Almaty to Astana in 1997, which resulted in significant transformations of migration directions between regions of the country.

In connection with abovementioned points, the *goal* of this diploma thesis, then, is to identify the main determinants of interregional migration in Kazakhstan and try to define the major migration flows between regions of the country and to assess the impacts of these movements on regional distribution of population.

Thus, this paper deals with the underlying causes of interregional migration in the Kazakhstani context and outlines main characteristics of each region considering size, age and sex structure of the population and describe interregional migrants by educational level, marital status, occupation and type of residence for the country as a whole or by regions depending on data availability.

The research covers the period from the aftermath of the Soviet Union's collapse till the nowadays in descriptive part however migration analysis based on data from 1999 till 2008.

1.2 Scientific relevance

Demography has a long tradition of research into the socio–economic determinants of mortality and fertility (Caldwell, 2001). British researchers, for instance, found differences in mortality rates by urban–rural residence as early as in the seventeenth century. Mortality has been the most extensively studied component in the discipline. However, fertility studies predominated in the 1960s and 1970s. Van de Kaa (1996b) presents an overview of the rich history of research into the determinants of fertility in the second half of the twentieth century (R. Jennissen, 2004). Migration was never the most extensively studied component in (social) demography, especially in countries like Kazakhstan.

Nevertheless, the number of studies on international migration and it's consequences on demographic transformation in Kazakhstan during transition period is vast (Becker et al, 2003; Sadovskaya, 2005; CMAR and UNFPA, 2006). However, attempts to measure the influence of interregional migration on population distribution over the country and it's role in formation of overpopulated regions with density as high as 4416 people per sq. km in Almaty city (2008) on the one hand and sparsely populated regions as Mangistau oblast (2.5 people per sq. km in 2008) on the other are rare.

The main reasons which are responsible for this sorry state of affairs are firstly, representative data on internal migration in Kazakhstan are scarce because our country like many other countries in the world has only a recent history of collecting and publishing data on migration. Secondly, according to Massey et al (1994, 1998) research into migration lacks a commonly accepted theoretical framework, which would facilitate the accumulation of knowledge.

This diploma work is theoretically relevant as hypotheses on possible ties between interregional migration and population distribution which is based on competing and coexisting (economic) theories in current literature. Furthermore, the scientific relevance of this diploma thesis lies in the construction of a theoretical framework on interregional migration in which the importance of social and economic factors in solving the population distribution puzzle in Kazakhstan is shown

1.3 Structure of the thesis, hypotheses and research questions

This section presents an overview of the path that will be followed to achieve the goal of this thesis, which is formulated in section 1.1. Chapter 1 – introduction to the work with two sections outlining aim, scientific relevance and research questions.

Chapter 2 is the theoretical basis of this thesis. It shows that the economic point of view accounts for a considerable part of the theoretical background of migration process.

The aim of chapter 3 is to describe sources of data on migration in Kazakhstan. In addition, this chapter outlines methodology which is used in the analytical part of this dissertation.

Socio–economic characteristics of the regions and peculiarities of population distribution are characterized in Section 4 The first part of this chapter devoted to the historical overview of migration processes in the country, the second is to the system of administrative territorial structure of Kazakhstan and the last part tells about demographic and economical distinctions of each region depicted in several maps and charts.

The analyses of correlation between interregional migration and socio–economic variables are shown in chapter 5 and the conclusions are summarised in the final chapter. An attempt has been made to present a new angle on interregional migration in Kazakhstan.

Research questions:

a) Which are the main determinants of interregional migration in Kazakhstan?
b) Who migrates the most and why?
c) What are the main regional specifics of the spatial distribution of the population?

Hypotheses:

I. Relocation of the capital city had a large impact upon directions of the interregional migration and population distribution in Kazakhstan.
II. Interregional migratory flows follow the expected pattern from less developed areas to more developed areas and the differences in socioeconomic development (expressed in wage levels and indices of well–being) are still determining factors for interregional migration.
III. Interregional migration to a considerable extent has an influence upon the regional distribution of the population in Kazakhstan.

Chapter 2

A theoretical framework

Migration is a difficult concept to define because it includes people who move for different reasons across different spaces. A migrant can be a person who moves to another city or town within a nation; a refugee who crosses an international border to escape religious or political persecution; a jobseeker who moves to another country for better economic opportunities; a slave who is forcibly moved; or a person displaced by war or natural disaster. Considering this fact, no single theory can provide a comprehensive explanation for the migration process.

Although a comprehensive theory is unattainable, it remains a crucial task of demographers to explain why people migrate. Theories of migration are important because they can help us understand population movements within their wider political and economic contexts.

Ernest Ravenstein is widely regarded as the earliest migration theorist. Ravenstein, an English geographer, used census data from England and Wales to develop his "Laws of Migration" (1889). He concluded that migration was governed by a "push–pull" process; that is, unfavorable conditions in one place (oppressive laws, heavy taxation, etc.) "push" people out, and favorable conditions in an external location "pull" them in. Ravenstein's laws stated that the primary cause for migration was better external economic opportunities; the volume of migration decreases as distance increases; migration occurs in stages instead of one long move; population movements are bilateral; and migration differentials (e.g., gender, social class, age) influence a person's mobility.

Many theorists have followed in Ravenstein's footsteps, and the dominant theories in contemporary scholarship are more or less variations of his conclusions. Everett Lee (1966) reformulated Ravenstein's theory to give more emphasis to internal (or push) factors. Lee also outlined the impact that *intervening obstacles* have on the migration process. He argued that variables such as distance, physical and political barriers, and having dependents can impede or even prevent migration. Lee pointed out that the migration process is selective because differentials such as age, gender, and social class affect how persons respond to push–pull factors, and these conditions also shape their ability to overcome intervening obstacles. Furthermore, personal factors such as a person's education, knowledge of a potential receiver population, family ties, and the like can facilitate or retard migration (http://family.jrank.org).

With regard to internal or regional migration then regional economics and regional migration as it is pointed out by Van Delft and Suyker (1984) are interrelated issues which can be explained both from economists and demographers' points of view. Accordingly, causes and

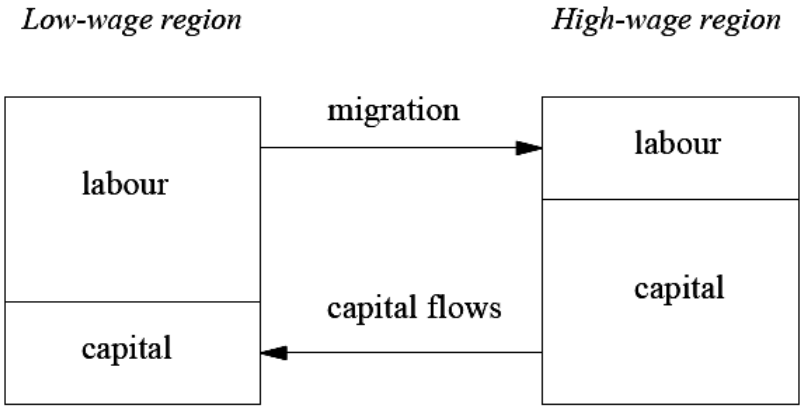
consequences of internal migration can be seen as factors of demographic change and economic development of regions. Given the current economic situation there are substantial regional differences in wages, income, employment and economic growth in Kazakhstan. Besides, the regional differences in educational level of population in origin and destination places can also be seen as an influencing factor of internal migration (L. Tussupbayeva, 2007). The analysis of how regional disparities affect migration from one oblast to another or from rural areas to urban is of particular interest of this research.

Several theories have been developed to treat different patterns of migration on their own terms, but these are variants which could be related to our topic.

2.1 Neo–classical economic theory

According to *neoclassical economic theory*, real wage differences between regions give rise to two flows that will exist whereby a new internal equilibrium is created in which real wages are of the same level in all regions. The first is a flow of low–skilled labour from low–wage regions to high–wage regions. The second is a capital flow from high–wage regions to low–wage regions. This capital flow comprises mainly labour–intensive industrial capital and will be accompanied by high–skilled labour migration. This mechanism leading to equilibrium is well presented by Öberg (1997, p. 24, see Figure 1).

Figure 1 – Neo–classical mechanisms leading to equilibrium



Source: Jennissen, R. 2005

Both net labour migration and net capital flows will be equal to zero when a new equilibrium is achieved. Thus in this view, net internal labour migration is a temporal phenomenon. Neo–classical economic theory is particularly appropriate with regard to interregional migration because in contrast to international migration, interregional migration is often less curbed by policies. Currently neo–classical economic theory also can be used to explain international migration flows within the European Union as these flows are also less encumbered by restrictions (R. Jennissen, 2005).

2.2 Network theory

Migrant networks are defined in the extant literature as recurrent sets of interpersonal ties that bind migrants and non–migrants together within a web of reciprocal obligations that can be drawn upon to facilitate entry, adjustment, and employment at points of destination (Massey, 1987; Boyd, 1989; Portes, 1995).

Pioneer migrants or groups set examples that can develop into a stream of what can be called mass migration (Petersen 1958: 263±4). Network–building pioneer migrants reduce both the direct monetary costs of movement and the opportunity costs–the earnings forgone while moving, searching for work and housing, learning new skills–and also decrease the psychological costs of adjustment to a new environment in the destination area (Fawcett 1989).

A network is defined as a set of individual or collective actors–ranging from individuals, families, firms, and the relations that couple them. Networks consist of more or less homogeneous sets of ties among three or more positions. Social networks encompass ties linking nodes in social system–ties that connect persons, groups, organizations, or clusters of ties, as well as people. Network patterns of ties comprise social, economic, political networks of interaction, as well as collectives such as groups–kinship groups or communities–and private or public associations.

Networks of migrants serve as channels through which migrants are transferred from origin to destination but also may encourage permanent settlement or foster return migration. And even in the case of solitary migration, migrants commonly draw information, financial assistance and other resources from pioneer migrants who have already gone to the destination; weak ties then play a role.

The main assumption is aptly summarized in the provocative phrase that it is `not people who migrate but networks' (Tilly 1990: 65). Migrant networks then are sets of interpersonal ties that connect movers, former movers, and non–movers in places of origin and destination through social ties, be they relations of kinship, friendship, or remote acquaintances (Choldin 1973). Migrant networks lead to chain migration, arranged by means of primary social relationships with previous migrants (MacDonald and MacDonald 1964: 82). Chain migration is a social mechanism in which numerous persons leave one well–defined area of origin serially for another well–defined location. They rely on people from the same origin and brokers for information, informal aid, and various other resources. Many chain migrations begin as circular migration of seasonal or longer cycle movement in which constantly returning agricultural workers, craftsmen or petty merchants form a base from which pioneer migrants and brokers can be drawn.

Network is a concept or strategy to study how resources, goods, and ideas flow through particular configurations of social and symbolic ties. An analysis of networks allows statements about the possibility of people to interact. Indicators are size, density or connectedness, degree, centrality, and clustering of positions. An added benefit of network analysis is that positions can be included which are not part of formal and tightly bound groups. Descriptions and explanations based solely on bound groups sometimes overlook members' cross–cutting memberships in various circles (Simmel 1955).

2.3 The human capital theory

Education is an economic good because it is not easily obtainable and thus needs to be apportioned. Economists regard education as both consumer and capital good because it offers utility to a consumer and also serves as an input into the production of other goods and services. As a capital good, education can be used to develop the human resources necessary for economic and social transformation. The focus on education as a capital good relates to the concept of human capital, which emphasizes that the development of skills is an important factor in production activities. It is widely accepted that education creates improved citizens and helps to upgrade the general standard of living in a society. Therefore, positive social change is likely to be associated with the production of qualitative citizenry (D.A Olaniyan et al, 2008). This increasing faith in education as an agent of change in many developing countries, including Kazakhstan, which has led to a heavy investment in it as an example of this fact could the initiated by President N. Nazarbaev International Scholarship “Bolashak”. The pressure for higher education in many developing countries has undoubtedly been helped by public perception of financial reward from pursuing such education. Generally, this goes with the belief that expanding education promotes economic growth.

2.2.1 The concept of human capital theory

The economic prosperity and functioning of a nation depends on its physical and human capital stock. Whereas the former has traditionally been the focus of economic research, factors affecting the enhancement of human skills and talent are increasingly figuring in the research of social and behavioural sciences. In general terms, human capital represents the investment people make in themselves that enhance their economic productivity.

The theoretical framework most responsible for the wholesome adoption of education and development policies has come to be known as human capital theory. Based upon the work of Schultz (1971), Sakamota and Powers (1995), Psacharopoulos and Woodhall (1997), human capital theory rests on the assumption that formal education is highly instrumental and even necessary to improve the production capacity of a population. In short, the human capital theorists argue that an educated population is a productive population.

Human capital theory emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability which is a product of innate abilities and investment in human beings. The provision of formal education is seen as a productive investment in human capital, which the proponents of the theory have considered as equally or even more equally worthwhile than that of physical capital.

According to Babalola (2003), the rationality behind investment in human capital is based on three arguments:

I. that the new generation must be given the appropriate parts of the knowledge which has already been accumulated by previous generations;
II. that new generation should be taught how existing knowledge should be used to develop new products, to introduce new processes and production methods and social services; and
III. that people must be encouraged to develop entirely new ideas, products, processes and methods through creative approaches.

According to Fagerlind and Saha, (1997) human capital theory provides a basic justification for large public expenditure on education both in developing and developed nations. The theory was consistent with the ideologies of democracy and liberal progression found in most Western societies. Its appeal was based upon the presumed economic return of investment in education both at the macro and micro levels. Efforts to promote investment in human capital were seen to result in rapid economic growth for society. For individuals, such investment was seen to provide returns in the form of individual economic success and achievement.

Most economists agree that it is human resources of nation, not its capital nor its material resources that ultimately determine the character and pace of its economic and social development. Psacharopoulos and Woodhall (1997) assert that: Human resources constitute the ultimate basis of wealth of nations. Capital and natural resources are passive factors of production, human beings are the active agencies who accumulate capital, exploit natural resources, build social, economic and political organization, and carry forward national development (D.A Olaniyan et al, 2008).

Chapter 3

Sources of data on migration in Kazakhstan and methods

Migration data are part of a country's demographic statistics. Information on the numbers, sex and age of persons entering or leaving a particular region during a specified period and information on the number of persons registered in that region at the beginning of the period together with data on births and deaths over the same time are important for evaluating the size and structure of a population. Statistics on migration are necessary for current and prospective calculations of the size and composition of the population and for studying demographic processes.

Interregional migration in Kazakhstan is defined as the movement of people (migrants) across the boundaries of 14 oblasts – regions and 2 municipal cities Astana and Almaty and it entails a change of place of residence. Data on migration in Kazakhstan is processed on the basis of two documents – the statistical record cards attached to the arrival form and that attached to the departure form. The statistical record card for the arrival form (form 19) and that for the departure form (form 20) are completed for the whole family.

Both documents are in questionnaire form. Gathering of the data and checking on the correctness and quality of completion of the cards is the responsibility of the district or municipal statistical sections. Improperly completed cards are returned for correction to the internal affairs bodies. After noting and filling in of all incorrectly completed cards they are submitted to the oblast statistical departments once a month (by the 10th day of the month following the reporting month). Data entry on IBM PCs, including coding, checking and sorting, is performed monthly in the oblast statistical departments. The primary database file, once processed (coded and sorted), is sent by modem each month to the Information Computing Centre of the Kazakhstan Statistical Agency together with oblast form A by no later than the 20th day of the month following the reporting month. Oblasts form A reports the control figures.

Economic development, urban growth and other processes involving socio–economic transformations are reflected in the growing mobility of the population and increasing internal migration. The accuracy of measurement of internal migration is not as yet entirely satisfactory. This is evidenced by the frequent discrepancy in the data for the number of departures from any given territory and the number of arrivals there from in other territories. There is less precise recording of migrants from urban to rural areas and from one locality to another.

The difficulty of recording migration is explained, first of all, by the mass of facts needing to be examined, which is many times greater than for the measurement of natural movement. While people are born and die only once and marry or divorce not so very frequently in a lifetime, moving from one place of residence to another is with many people a recurrent event and such of movements cannot all be fully documented, but for a country's economic development policy and strategy it is essential to study internal migration, particularly during a transitional period, so that the Government can take measures in time to anticipate large–scale migration, especially from environmentally or economically distressed regions (Aral, Semipalatinsk, the cities of Zhanatas, Karatau, etc.).

To improve the completeness and quality of the monitoring of migration and all migration processes inside the country it is necessary to improve local record–keeping and carry out quarterly sample checks of the completeness of the records, for which at present there is a shortage of funding.

3.1 Local enumeration and processing of data on migration

The Kazakhstan Statistical Agency actually uses general data regarding migration based on information from the internal affairs bodies (migration police divisions), i.e. the statistical record cards showing arrivals and departures which are completed at the same time as the address forms upon registration or deregistration according to place of residence or sojourn.

The statistical record card attached to the arrival form contains the following characteristics of the migrant: date and place of birth, sex, nationality, place of registration, place which the person left and when, from what year the person had been living in the place he or she left, purpose of travel, place of work and occupation at the previous place of residence, educational attainment, family status (married persons should indicate whether or not they arrived with their spouses) and information about children under 16 years of age arriving together with the adults.

Similar data on migrants can be found in the statistical record card attached to the departure form.

Processing of the information contained in the statistical record cards yields data on persons arriving and leaving, grouped by territory and by various socio–demographic characteristics (sex, age, nationality, marital status, educational attainment, etc.).

The statistical record cards for persons arriving/leaving are made out in one copy on their registration or deregistration for permanent residence or for a period of more than six months and the person filling out the document submit it to a specialist of the registration section of the migration police and local internal affairs departments. Once the persons responsible for the application of the rules of the passport system (migration police) have taken the documents needed for the completion of registration or deregistration, they check their authenticity and assume responsibility for the quality of the completed papers.

Gathering of the data and checking on the correctness and quality of completion of the cards is the responsibility of the district or municipal statistical sections. Improperly completed cards are returned for correction. After noting and filling in of all incorrectly completed cards the district or municipal statistical sections submit them to the oblast statistical departments once a

month (by the 10th day of the month following the reporting month). Data entry on PCs, including coding, checking and sorting, is performed monthly in the oblast statistical departments.

The database file, once processed (coded and sorted), is sent by modem each month to the Information Computing Centre of the Kazakhstan Statistical Agency together with oblast form A by no later than the 20th day of the month following the reporting period.

Statistical record cards relating to arrivals or departures are not completed for:

(1) Persons changing their place of residence within the same town, urban settlement or village, or for larger cities within the boundaries of city districts;

(2) Persons obtaining a passport on reaching 16 years of age;

(3) Persons changing their passports;

(4) Persons changing their first name, patronymic and surname.

Children under 16 years of age changing their place of residence separately from their parents or guardians are registered or deregistered commonly on the basis of a birth certificate. Children under 16 years of age registered or deregistered together with their parents or guardians do not fill in separate statistical record cards. The children's names are entered in the record card made out for the whole family.

3.2 Coding of statistical record cards

In the section "First name, patronymic and surname" (of the person completing the card) the names to be entered are those of the head of family or person responsible for completing the document, which may or may not be the head of family.

The following characteristics are coded:

- Place of arrival (Place arriving from);
- Place of departure (Place leaving to);
- Date of registration (day, month, year);
- Date of birth (day, month, year);
- Sex;
- Nationality;
- Citizenship;
- Education;

Sections A to F for persons arriving;

Sections A to E for persons leaving;

A – Social category (employees hired or contracted, employers, workers on own account, unemployed persons, etc.);

B – Purpose of travel (for permanent residence, for a contract of employment, in connection with study, etc.);

C – Level of education (higher, incomplete higher, specialized secondary, general secondary, incomplete secondary);

D – Speciality by education (architecture or building, medical, teaching, technical, economic, legal, farming, etc.);
E – Marital status (never married, married, widowed, divorced);
F – Status of persons arriving (refugee, repatriating refugee, immigrant).

Under "Name" the first entry is the name of the head of family or person responsible for completing the statistical form, followed by the names of all other family members in order (ECE–EUROSTAT Work Session on Migration Statistics, 2001).

3.3 Internal migration data

In studying interregional migration, the regional classification within country is important. In this paper we use data from Agency of Statistics in Kazakhstan issued by E. Musabek from 1999 to 2008 which includes in– and out–migration between the main 16 administrative units of Kazakhstan: 14 provinces (oblasts) and two municipal districts (Almaty and Astana cities). The lesser units are not included due to data quality and availability. The following data is available in the Agency's database:

- Interregional migration by sex, marital status, educational level and region of origin and region of destination
- Internal migrants all ages and separately 16 + and,
- Origin–destination migration matrixes

3.4 Methods and indicators

The following variables of internal migration measurement are used:

Net migration is the difference between in–migration and out–migration in a certain area during a specific time frame.

In–migration rates per 1000 inhabitants = (IM / Mid Year Population) x 1000

Out–migration rates per 1000 inhabitants = (OM / Mid Year Population) x 1000

Net migration rate is the difference of in–migration and out–migration of an area in a period of time, divided (usually) per 1,000 inhabitants (considered on midterm population). A positive value represents more people entering the region than leaving it, while a negative value means more people leaving than entering it.

Origin–destination matrix analysis for inter–regional migration flows from 1999 to 2008.

Pearson's correlation coefficient is a measure of the correlation (linear dependence) between two variables X and Y e.g. the regional migration rates and explanatory variables.

For any particular sample size, an observed value of **r** is regarded as statistically significant at the 5% level if and only if its distance from zero is equal to or greater than the distance of the tabled value of **r**. Thus, for a sample of size N=9, an observed value of **r**=+0.58 or **r**–0.58 would be significant at the 5% level for a directional hypothesis, and **r**=+0.58 or **r**=—0.67 for non–directional hypothesis.

The difference between the two kinds of situations is defined by the investigator's *hypothesis*, which is either **directional** or **non–directional**. Within the context of correlation, a directional hypothesis is one that leads the investigator to specify, in advance, one or the other of the following expectations:

Positive Directional Hypothesis: the relationship between X and Y in the general population is positive (the more of X, the more of Y), hence this particular sample of X_iY_i pairs will show a positive correlation; or

Negative Directional Hypothesis: the relationship between X and Y in the general population is negative (the more of X, the less of Y), hence this particular sample of X_iY_i pairs will show a negative correlation.

A non–directional hypothesis, on the other hand, leads only to the expectation that the correlation between X and Y within the general population might be something other than zero, with no specification of the particular direction in which it might go. Essentially, it is an either–or combination of the two types of directional hypothesis:

Non–Directional Hypothesis: the relationship between X and Y in the general population is something other than zero, hence this particular sample of X_iY_i pairs will show a non–zero correlation, **either** positive **or** negative, though we have no basis for predicting just which of these it will be.

The important logical difference between these two kinds of situations is that a non–directional hypothesis could potentially be supported by finding **either** a positive **or** a negative correlation within the sample, whereas a directional hypothesis could be supported only by finding a correlation within the sample that is in the direction specified; that is, only by finding a positive correlation when the positive direction has been specified, and only by finding a negative correlation when the negative direction has been specified. This logical difference between the two situations entails a different standard of statistical significance. Specifically, for any particular sample size, the value of r required for significance at the 5% level is larger for a non–directional hypothesis than for a directional hypothesis (Richard Lowry).

In this paper we will apply non–directional hypothesis for the sample size N=9.

Chapter 4

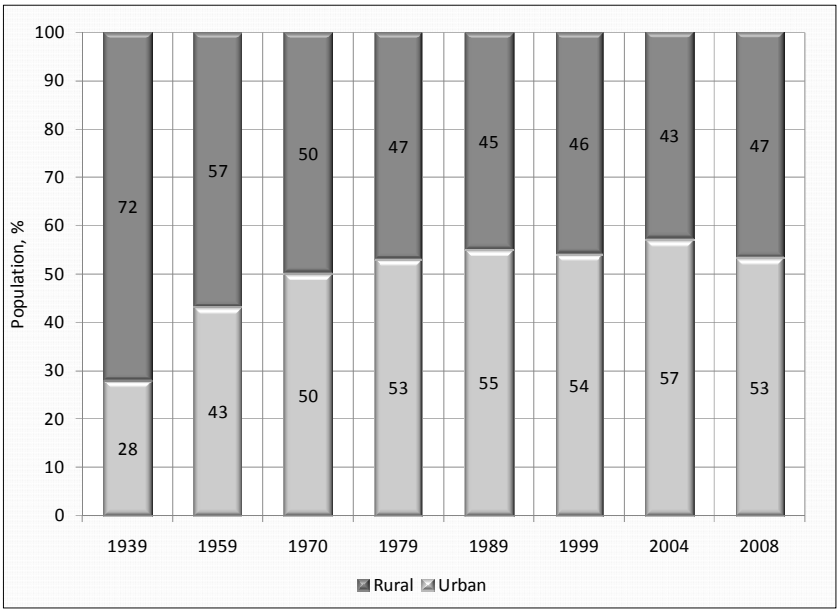
Socio–economic characteristics of the regions and distinctions in population distribution

4.1 Historical overview

The role of migration for the economic, demographic, social and ethno–cultural formation of Kazakhstan is essential. From the time when our country became part of the Soviet Union i.e. from the beginning of the 20th century Kazakhstan had experienced massive waves of multinational forced migration from the other parts of the Union which led to vital changes in the structure and composition of the country's population.

The first such flow of Russians moved to Kazakhstan in connection with industrial modernization reforms. This trend is reflected in the growth of the urban population in both absolute and relative terms. By, 1939 it was 2.29 times the 1926 level and had increased from 8.5% of the total population in 1926 to 27.8 %.

Figure 2– Population structure in Kazakhstan (%), 1939–2008



Source: Demographic Yearbook, 1989 (printed version), 1999–2008 from Kazakhstan Statistical Agency web site

From that time on proportion of urban population kept increasing, in 1970 exactly half of the population lived in urban areas and another half in rural, in ten years urban population accounted 53% later the proportion varied slightly and in 2008 the share was the same as 30 years ago (see Figure 2).

Coming back to history, not only Russians contributed to this increase. Thousands of Kazakhs moved to the towns to seek employment in the newly created industries. By 1939 16% of Kazakhs were urban dwellers, an eightfold increase since 1926. A whole new class of Kazakh industrial workers emerged in those years, reaching 246,900 by 1939, a 3.7–fold increase since 1927. By the late 1930s 50% of all industrial workers in Kazakhstan were Kazakhs, though the numbers of highly skilled workers among them were still low (Kiikbaev, 1968)

But the general effect of the 1930s on the ethnic balance in the Republic was disastrous for the Kazakhs. The collectivization of the early 1930s and subsequent famine led to a significant fall in Kazakh numbers due to deaths and migration out of the USSR. In combination with the inflow of new migrants this created a situation in which the Slavic and Kazakh populations were virtually equal in numbers, and the general trend was now working against the Kazakhs. In the late 1930s the beginning of mass deportations of "unreliable" ethnic groups from the border areas deep into the center of Eurasia, by way of preparation for World War Two, further contributed to this trend.

With the war raging deportations acquired bigger dimensions. The first really massive deportation was undertaken in August – September 1941, when the Autonomous Republic of the Volga Germans was abolished and its residents resettled in Kazakhstan and Siberia. Subsequently in the course of the war other minority groups were deported for alleged cooperation with the Nazis and for participation in brigandage on a large scale.

Thus Kazakhstan became the main place of exile for Chechens, Ingush, Polish, Karachai and Balkar deportees. With the exception of the Chechens, these nationalities were small numerically and could not influence the ethnic balance in Kazakhstan. Besides, on 9 January 1957 Presidium of the USSR Supreme Soviet adopted a number of decrees which reestablished autonomous statehood for the Chechen, Ingush, Karachai and Balkar peoples, and most of them returned to their respective republics.

Table 1 – Ethnic composition of population in Kazakhstan (%), 1897–2006

Nationality	1897	1911	1926	1939	1959	1970	1979	1989	1999	2006
Kazakh	73.9	60.8	59.5	38	30	32.6	36	39.7	53.4	59.2
Russian	12.8	27	18	40.2	42.7	42.4	40.8	37.4	29.9	25.6
Ukrainian	-	-	12.4	10.8	8.2	7.2	6.1	5.4	3.7	2.9
German	-	-	0.7	1.5	7.1	6.6	6.1	5.8	2.4	1.4
Tatar	1.1	1.1	0.7	1.6	1.5	2.2	2.1	2	1.7	1.5
Uzbek	1.3	1.1	3.2	1.7	1.1	1.7	1.8	2	2.5	2.9
Belarusian	-	-	-	0.5	1.2	1.5	1.2	1.1	0.8	-
Uyghur	-	-	-	-	0.6	0.9	1	1.1	1.4	1.5
Korean	-	-	-	-	0.8	0.6	0.6	0.6	0.7	

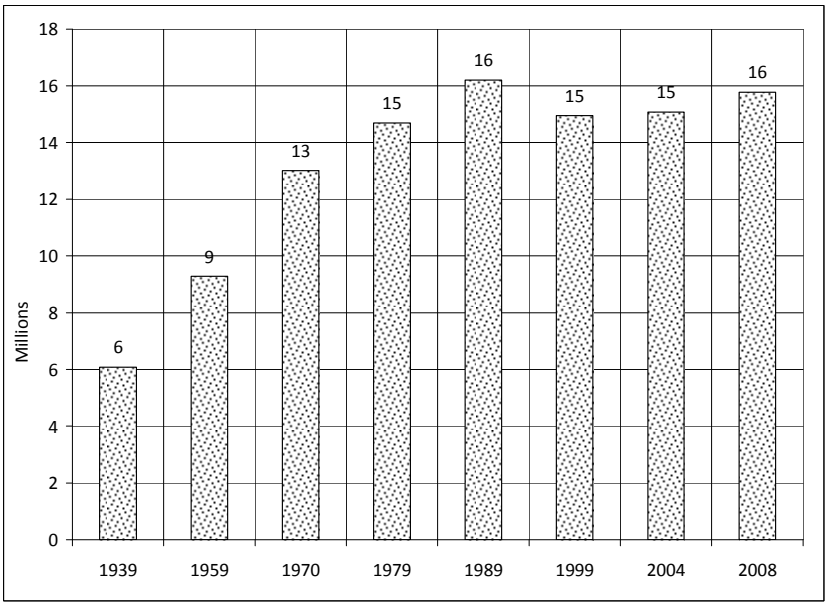
Source: demoscope.ru, Kazakhstan Statistical Agency web site

However statehood for Germans and Crimean Tartars was not reinstated and they had to stay in places of exile together with the Polish, who had never had such statehood in the Soviet Union. Though large numbers of Crimean Tatars were deported, only a small number were sent to Kazakhstan. The Poles, on the other hand, were almost all in Kazakhstan, but their absolute numbers were insignificant. This left the Germans, who being represented in Kazakhstan by only 36.6% of their deportees, nevertheless made a large absolute number. According to the 1959 census, Germans amounted to 7.09% of the Republic's population (Census 1959, 1962). Hence an important consequence of the war period for Kazakhstan was a large German community capable of influencing the political process there.

The last act in the drama surrounding migration to Kazakhstan was played out in the 1950s. In 1954 a new turmoil descended on the Republic, due to the Virgin Lands campaign initiated by Khrushchev. During the years of 1954–1962 about 1.7 million people came to Kazakhstan from the European part of the USSR (Tereschenko, 2002).

Ethnic balance in Kazakhstan was adversely affected (see Table 1), with Kazakhs becoming a minority in their own republic. By 1959 they amounted to only 30% of the total population. Not surprisingly, the impact of the Virgin Lands campaign on the Kazakh consciousness remains extremely negative. This campaign, conducted exclusively on the basis of economic considerations, is still perceived in Kazakhstan as forcible justification. It was not until 1989 that Kazakhs managed to reverse the ethnic balance in their favor (Gillette, 1993). Nevertheless the ultimate result of migration to Kazakhstan remains unchanged even now. The non–Kazakh population of the republic is still very substantial.

Figure 3 – Population in Kazakhstan (millions), 1939–2008



Source: demoscope.ru, Kazakhstan Statistical Agency web site

From that period on till the 70's there was observed positive net migration, i.e. number of people arrived to Kazakhstan was higher than those who left the country. Combination of the positive net migration and the "Baby Boom" effect of the World War Two resulted in the growth of the country's population to more than 14.6 million in 1979 and 16.2 million in 1989,

Official estimates indicate that the population continued to increase after 1989, peaking out at 17 million in 1993 and then declining to 15 million in the 1999 census (see Figure 3).

As Grandstaff (1975, p.484) indicates that as an area of soviet economic development during the 1950's and 1960's in connection with agricultural, coal–mining, and ferrous metallurgy campaigns, Kazakhstan had a higher than expected level of population mobility, most likely due to the high proportion of prior movers in its population. For instance, according to the Agency of Statistics during the periods of 1950–1959 and 1960–1967 the annual net migration gain per 1000 population equaled 12 and 5 people respectively. However, during the 1960s the inflow of population to Kazakhstan began to decrease and finally stopped. And starting from the end of 1960s the balance of migration with other republics of USSR became negative. Particularly, for the periods 1970–1979 and 1980–1989 the net migration loss made up –5 to –7 per 1000 people. However, the negative net migration did not affect considerably and population kept growing till the collapse of the Soviet Union after which the massive emigration took place.

It should have to be noted that "because of the Kazakhstan's diverse, multi–ethnic population, and because it has tended to be relatively easy to move from one former Soviet republic to another, there was no really big distinction between internal and international migration in the Soviet Union (Becker et al., 2003 p.231). Indeed, population movements within the Soviet Union were quite intensive and free of substantial limitations compared to strict restrictions with respect to external migration abroad. The special permission was required to reside only in the capital cities as Moscow or St. Petersburg and in so called 'closed cities' represented by Baikonyr cosmodrome, scientific research centres and towns with military objects. Another regulation related to internal migration was implemented through agreement or special order from state enterprises to educational institutions. For that reason, after completion of education, young specialists were obliged to spend one to two years at the destination workplace according to the agreement. There were of course exclusions for married people and women with children.

Another in–direct restriction to internal movements was the absence of private ownership for housing since all dwelling stock belonged to the state and citizens rented their flats, rooms and houses from the state.

Table 2 – Structure of population in Kazakhstan by sex and place of residence (%), 1939–2008

	1939	**1959**	**1970**	**1979**	**1989**	**1999**	**2004**	**2008**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Male	52	48	48	48	48	48	48	48
Female	48	52	52	52	52	52	52	52
Urban	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Male	52	47	48	47	48	47	47	47
Female	48	53	52	53	52	53	53	53
Rural	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Male	52	48	48	49	50	50	50	50
Female	48	52	52	51	50	50	50	50

Source: Agency of Statistics of the Republic of Kazakhstan and demoscope.ru

The soviet internal passport system required that persons changing places of residence to register with municipal authorities in areas of arrival. Therefore, in order to move from one place of residence to another one should register at the new address which was necessary both for housing purposes and for employment, as without registration workers couldn't expect to find a job (L. Tussupbayeva, 2007).

As regards to the consequences of the afore–mentioned historical events to the sex composition of the country's population, then, according to the Table 2 one can detect that the data of 1939 census shows that male accounted for 52% of total population however, after the II World War the situation reversed and the proportion of the female population achieved 52% (according to the 1959 census). From the 60's the proportion of males makes up 48% and this is remains on the same level until now. If we look at the sex distribution by urban and rural areas from Table 2, the sex structure of urban citizens reflects the general structure of the total population, which was 47% for men and 53% for women in 1999. As for the rural citizens, it can be seen that the proportion of rural male increased from 48% in 1959 to 50% in 1999 whereas the percentage of rural females decreased from 52% to 50% consequently. Generally, share of males among rural population is higher than among urban, this could be explained by the fact that almost all rural settlements' population in Kazakhstan are engaged in farming and the main work force is men moreover the life expectancy of rural population is longer in contrast to urban e.g. according to Demographic Yearbook of Kazakhstan (2008) in 1999 life expectancy at birth of males in urban areas accounted 59.30 years and 59.43 in 2007 while life expectancy at birth of rural reside men were 62.49 and 62.31 years respectively.

4.2 The system of administrative – territorial structure of Kazakhstan

Kazakhstan is located in juncture of two continents – Europe and Asia, between 45 and 87 degrees of east longitude, 40 and 55 degrees of northern breadth. Kazakhstan occupies a territory equal to 2724,9 thousand sq. km. (1048,3 thousand sq. miles) also it is stretching to east from the Caspian sea and Volga's of plains up to mountain Altai from Tjan–Shan foothills in the south and southeast up to the West–Siberian lowland in north. The extent of its territory exceeds 3000 km from west to east (1150 miles), from the south to north – 1700 km (650 miles). Kazakhstan is on the ninth place in the world considering the territory occupied. East, North and Northwest parts of Kazakhstan bound with Russia (extent of boundary is 6477 km), in the South – with the states of Central Asia – Uzbekistan (2300 km), Kyrgyzstan (980 km) and Turkmenistan (380 km), and in the Southeast – with China (1460 km). The general extent of boundaries of Kazakhstan is almost 12.2 thousand km, including 600 km in the Caspian sea (in west).

Having such a vast territory, Kazakhstan already on this parameter cannot have homogeneous socio–economic and demographic structure. Uneven distribution of population, water, soil suitable for agriculture and other resources became the reason of significant and sharp economic and demographic differentiations of the country.

The system of administrative – territorial structure of Kazakhstan consists of the following administrative – territorial units: aul (settlement), village, aul (rural) district – town, borough, city, district and oblast. There are 14 oblasts in Kazakhstan (see *Map 1*) and 5 economic regions.

Map 1 – Administrative–territorial and economic division of Kazakhstan (2008)

The oblasts are further subdivided into districts and cities, towns (see *Table 3)*

Cities and towns are divided:

1) major, municipal cities, of republican submission which can attribute localities of particular national importance or of the population, typically more than one million people – Almaty and Astana;

2) cities of regional submission, which attributes settlements, which are major economic and cultural centre's, with the developed productive and social infrastructure and with a population of more than 50 thousand people;

3) a city district – borough, which attributes settlements with territory occupied by industrial companies, with utilities, housing, well–developed network of educational, cultural, medical and shopping facilities, with a population of at least 10 thousand people, of workers, employees and their family members accounted for more than two–thirds of the total population;

Table 3 – The number of administrative–territorial units of Kazakhstan (01.01.2008)

Division	Number
Oblasts	14
Districs	169
Cities	86
Boroughs	8
Towns	38
Villages	2469
Settlements	7217

Source: Demographic Yearbook of 2008

4) a rural district – town, is a settlement attached to some industrial enterprises, constructions, railway stations or any other economically important sites with a population not less than 3 thousand people, of which the workers, employees and their family members make up at least two–thirds of a total town's population;

5) an aul (village) – the smallest administrative unit in the county with population of at least 50 people, including workers in agriculture, forestry and hunting, beekeeping, fisheries and fish farming, their families and physicians, social welfare workers, education, culture and sports instructors have to make at least half of the population;

In this work we mainly use data for inter–regional migration in order to analyse the role of migration between oblasts of Kazakhstan on the population distribution and also intra–regional movements. Inter–regional migration we interpret as an event which occurs when the boundary of one of 16 administrative units is crossed and intra–regional migration captures all moves within 14 provinces and 2 municipal districts. In fact, migration statistics even registers movements taking place between auls – the smallest settlements; however, the quality of data for such units is very questionable.

Table 4 – Population distribution and areas by regions of Kazakhstan in 1999 and 2008

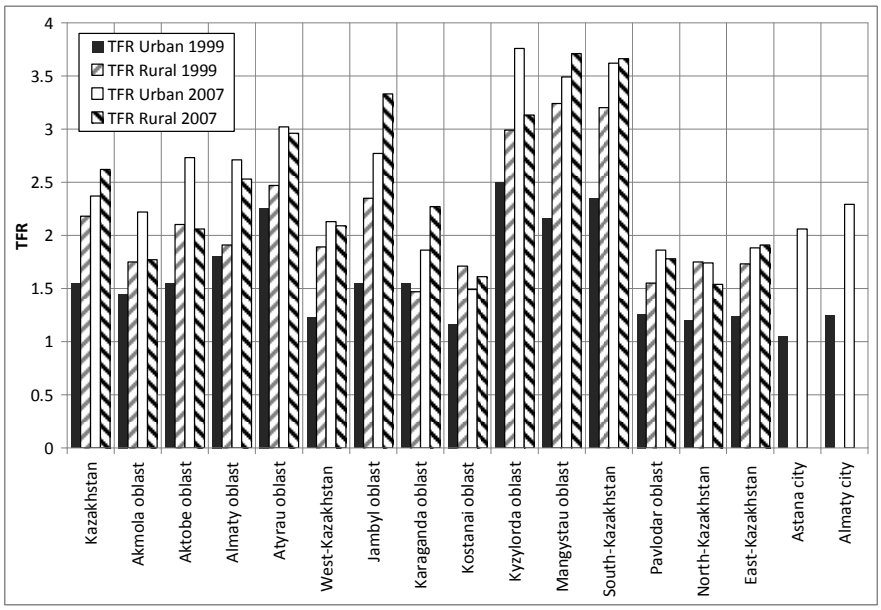
	Area (thou. km^2)	**Area (%)**	**1999**	**2008**
Kazakhstan	2724.9	100.00	14.955.106	15.571.506
Akmola oblast	146.2	5.37	829.207	747.447
Aktobe oblast	300.6	11.03	682.546	703.660
Almaty oblast	224.0	8.22	1.556.535	1.643.278
Atyrau oblast	118.6	4.35	439.357	490.369
West-Kazakhstan oblast	151.3	5.55	617.370	615.310
Jambyl oblast	144.3	5.30	988.856	1.018.845
Karaganda oblast	428.0	15.71	1.411.405	1.342.081
Kostanai oblast	196.0	7.19	1.020.504	894.192
Kyzylorda oblast	226.0	8.29	595.503	632.234
Mangystau oblast	165.6	6.08	314.035	407.403
South-Kazakhstan oblast	117.3	4.30	1.975.553	2.331.505
Pavlodar oblast	124.8	4.58	808.363	746.454
North-Kazakhstan oblast	98.0	3.60	727.001	653.921
East-Kazakhstan oblast	283.2	10.39	1.532.943	1.417.384
Astana city	0.7	0.03	326.939	602.684
Almaty city	0.3	0.01	1.128.989	1.324.739

Source: Demographic Yearbook of 2008

The most populated oblast in the country is the South–Kazakhstan oblast with population very close to 2 millions in 1999 and still remaining on its position with highest number of population 2.3 million in 2008 (see Table 4). This could be related to above county's average level of fertility also the Southern regions mostly populated by native Kazakhs living predominantly in rural areas and as a result the young population who is more inclined to migrate. In Kyzylorda, Mangystau and South–Kazakhstan oblasts TFR in urban areas increased from around 2.5 in 1999 to above 3.5 children per women in 2007. During the last decade fertility has grown in almost all regions especially notable growth took place in cities due to

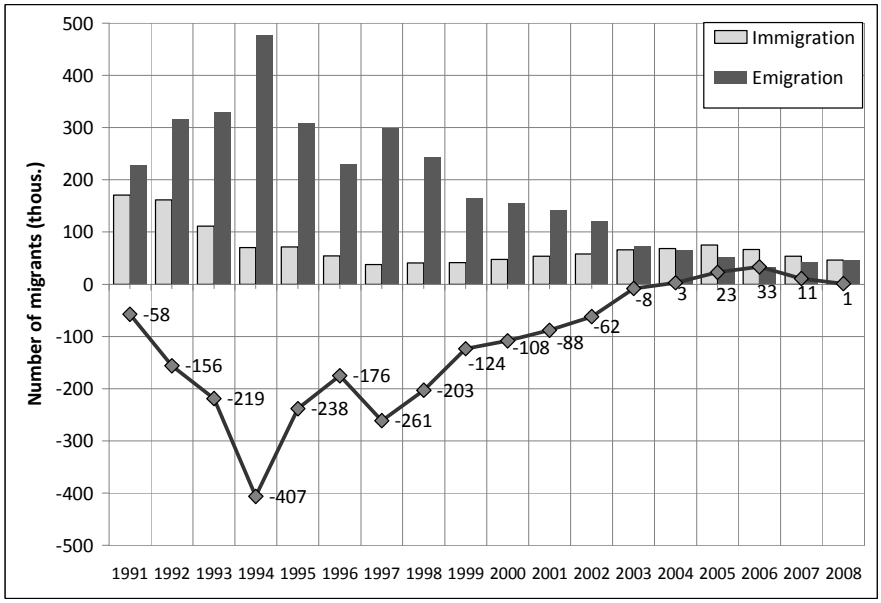
economic recovery than in rural areas. The Northern regions – Akmola, Kostanai, Pavlodar, North–Kazakhstan oblast, Central – Karaganda, and East–Kazakhstan oblasts in opposite have older population, lower fertility and despite the massive out–migration of non–Kazakh ethnic groups during transition period still have significant number of Slavic population and fertility of rural areas in these regions have even fallen in recent years than decade before, for example in North–Kazakhstan in 1999 TFR of rural settlements was 1.75 and it decreased to 1.54 in 2007 (see Figure 4).

Figure 4 – Total Fertility Rate by place of residence for regions of Kazakhstan in 1999 and 2007



Source: Demographic Yearbook of 2008

Figure 5 – International migration in Kazakhstan (thousands), 1991–2008

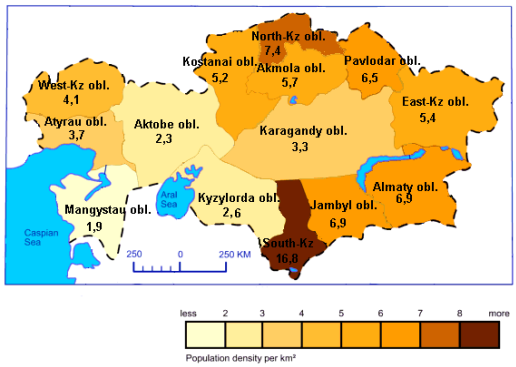


Source: Kazakhstan during the independence period 1991–2007

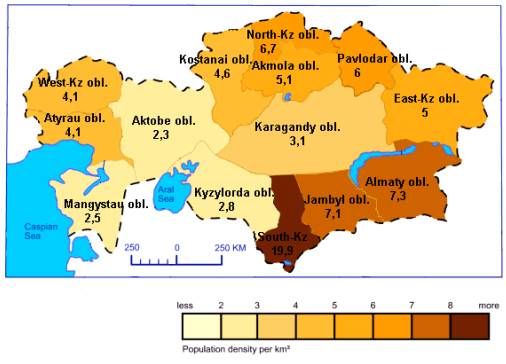
After the breakup of the Soviet Union and opening of borders thousands of Germans, Russians, Ukrainians, Belorussians and other forcibly displaced ethnic groups left Kazakhstan. Those nationalities predominantly lived in the Northern regions of the county such as North–Kazakhstan, Akmola, Karaganda, Pavlodar, Kostanai and East–Kazakhstan oblasts and as a result of intensive emigration these regions lost considerable part of their population at working age because most of emigrants at that time were educated, skilled young adults. The loss of population in Kazakhstan from out–migration amounted –57686 in 1991 and in 1993 this number was already fourfold and reached –219025 but the peak of net emigration fall to 1994 when the country left more than 400 thousands people (see Figure 5). Kazakhstan continued to lose population till 2004 when net international migration was less than 3000 people and with economic improvement number of immigrants consequently increased to 33041 in 2006 but dropped again to 1117 in 2008.

In combination with low fertility, emigration quite negatively affected the Northern regions and the certain evidence of this fact could be declining population density in these regions. In 1999 there were 5.2, 7.4, 5.7, 3.3, 6.5, and 5.4 people per sq. km in Kostanai, North–Kazakhstan, Akmola, Karaganda, Pavlodar and East–Kazakhstan oblasts respectively while the density fell to 4.6, 6.7, 5.1, 3.1, 6, and 5 correspondingly for each region in 2007 (see Maps 2 and 3). However the Sothern oblasts have experienced growth of population density in 2007 in contrast to 1999. In Kysylorda, South–Kazakhstan, Jambyl and Almaty oblasts the growth could be explained by increase of the fertility level in combination with in–flow of oralmans whereas in Atyrau and Magystau oblasts it relates to boom in oil–mining sector and as a result migration of job seekers from other oblasts.

Map 2 – Population density in Kazakhstan, 1999



Map 3 – Population Density in Kazakhstan, 2007



Source: www.state.gov

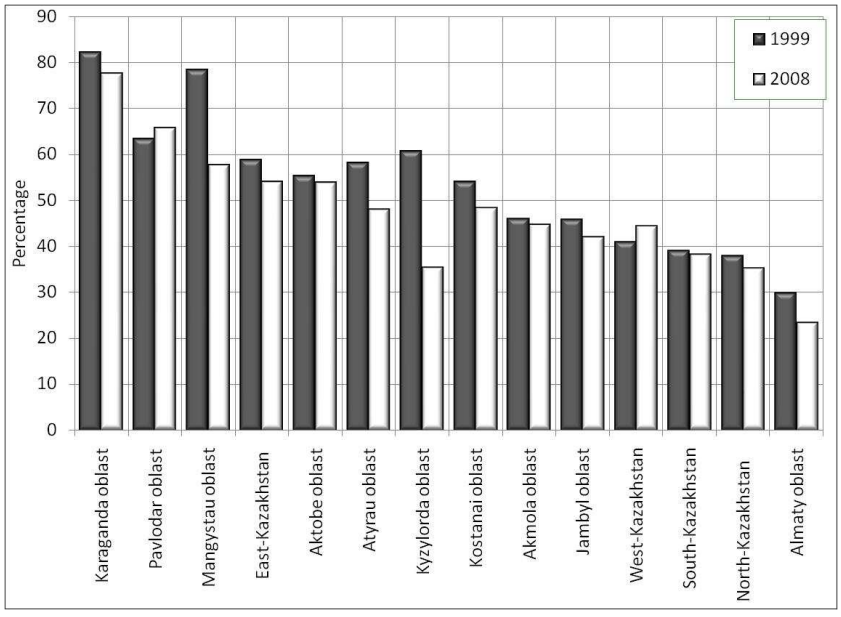
4.3 Socio–economic characteristics of regions

4.3.1 Demographic situation

Kazakhstan is the ninth largest country in the world with just 15 millions of population. Due to the fact of possessing such a vast territory and some historical events almost half of the country's population live in the rural areas.

The highest share of rural population is in the agricultural and agro–industrial oblasts such as Almaty, North–Kazakhstan, South–Kazakhstan, Jambyl, Kostanai and Akmola oblasts which could be explained by appropriate climatic conditions for agriculture in South–Kazakhstan, Jambyl and Almaty oblasts and by the disposal of the fertile grounds at North regions. Almaty oblast is the least urbanized region with only 30% of urban population in 1999 and even less 23% in 2008 while in Karaganda oblast 82% in 1999 and 77.5% in 2008 of its population reside in cities and towns (*see Figure 6).* It could be related to the fact that Karaganda oblast occupies the 16% of country's territory (the largest share) also the oblast is considered as the most industrialized oblast with a significant percentage of non–Kazakh population. Generally, the urbanization has negative trend for almost all oblasts except for Pavlodar and West–Kazakhstan oblasts. The situation with West–Kazakhstan oblast is could be bound up to the development of gas–fields which attracted workers coming from other oblasts with high unemployment level and low wages while the situation in Pavlodar oblast may be explained by the strong rural to urban intra–regional migration.

Figure 6 – Proportion of urban population to total population of regions of Kazakhstan (%) in 1999 and 2008



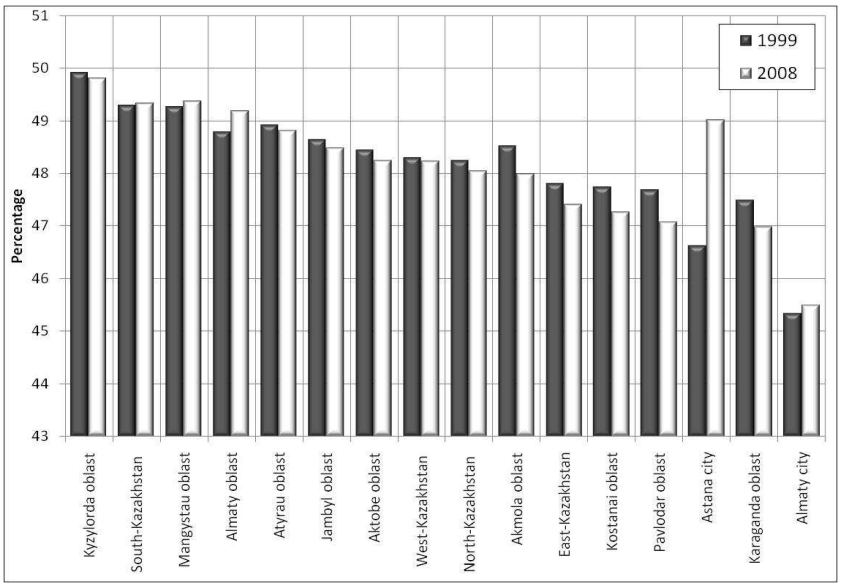
Source: Demographic Yearbook for 2008

Mangistau, Kyzylorda and Almaty oblasts during the last decade experienced sizeable decline in the share of urban population from 78.5% to 57.5%, from 60.5% to 35% and from 30 to 23.5% respectively. Such a shrink in the number of urban population in these regions is

mostly due to the contribution to the number of rural population of arriving oralmans – repatriates from the bordering countries such as Turkmenistan and Uzbekistan.

Oralmans are ethnic Kazakh immigrants; a term oralman means "people who came back." They come from across Asia – mainly from former Soviet republics, but also from countries such as Afghanistan and Mongolia. The Kazakh government has encouraged the Kazakh Diaspora to return since 1993. Many of today's oralmans are descendants of refugees who fled Soviet collectivization drives in the 1920s and 30s. Others, in the case of Kazakhs in Uzbekistan, simply found themselves outside the Kazakh SSR as a result of Moscow's occasional shifting of Central Asian borders during the Soviet era. Each year Astana sets a quota for the number of Kazakhs eligible to return. Those who immigrate under the quota are provided with housing, a grant of roughly $60 per family member, and assistance in acquiring a residence permit and Kazakh passport. However, the number of arrivals far exceeds the quota. For example, in 2001, the quota allowed for 600 families to return in reality more than 10,000 families arrived, according to the International Organization for Migration (A. Kueppers, 2003).

Figure 7 – Proportion of male population to total populations of regions of Kazakhstan (%) in 1999 and 2008



Source: Demographic Yearbook for 2008

Immigration of ethnic Kazakhs influenced not only absolute numbers of the Southern oblasts' populations but also changed the age and sex structure of the latter's. As a result, Kyzylorda, South–Kazakhstan, Mangystau and Almaty oblasts have highest share of male population, e.g. very close to 50% in 1999 and it decline slightly in 2008 in Kyzylorda oblast. It is clearly seen that the Southern regions with the highest level of fertility, density and proportion of the titular nation have higher share of men than the regions located close to the Russian border and more industrial. However the capital city gained in the number of male population due to the arrival of workers to constructions and move of the civil servants from Almaty city. Almaty city has slightly above 45% of male population because of the fact that women are the most attracted by the job opportunities in the former capital city than in any

other oblasts or cities, in spite of the moving the capital to Astana, Almaty still remains the cultural and financial centre of the country (see Figure 7).

If we compare the proportion of males from the total population of each oblast then except for Astana, Almaty cities and South–Kazakhstan, Mangistau, Almaty oblasts, the common trend for all other oblasts is negative, i.e. proportion of men is decreasing with domination of female population. The main reasons for such situation firstly, due to the women lifestyle in contrast to men, who are more frequently exposed to stress, traumas, road–accidents etc. also death rates from the different causes are high among males. Secondly, female population has a longer live expectancy to that of man and the difference between live expectancy at birth of females and males is more than 10 years nowadays, and this gap is only increasing in favour of firsts.

Such a sad demographic and health situation also affected age structure of the county's population. The Western and the Southern regions such as South–Kazakhstan, Mangystau, Kyzylorda, Jambyl and Atyrau oblasts have the highest share of young population in both sexes furthermore these regions have the lowest proportion of elderly population e.g. 7.6% in South–Kazakhstan oblast in 2008 while the average share of elderly for the country is 12.1%. All oblasts in the North and East–Kazakhstan oblast which have experienced intensive out–migration during the 90's are depopulating now with highest share of retired population and lowest percentage of children as a result of changed attitudes of the northern women towards childbearing and marriage. Moreover, the proportion of elderly people is higher for females in all regions and it is again the clear evidence of high mortality among males and closeness of aging process in Kazakhstan. But still, almost in all oblasts of the country share of young adults has increased in 2008 in contrast to 1999. The most notable rise took place in Astana to 74.4 in 2008 from 65.5 in 1999 for males and to 73.1 from 66.2 respectively for females (see Table 5) of course that is mainly result of interregional migration related to the relocation of the capital city.

Table 5 –Population structure by sex and age for regions of Kazakhstan in 1999 and 2008 (percentage to total population of each oblast)

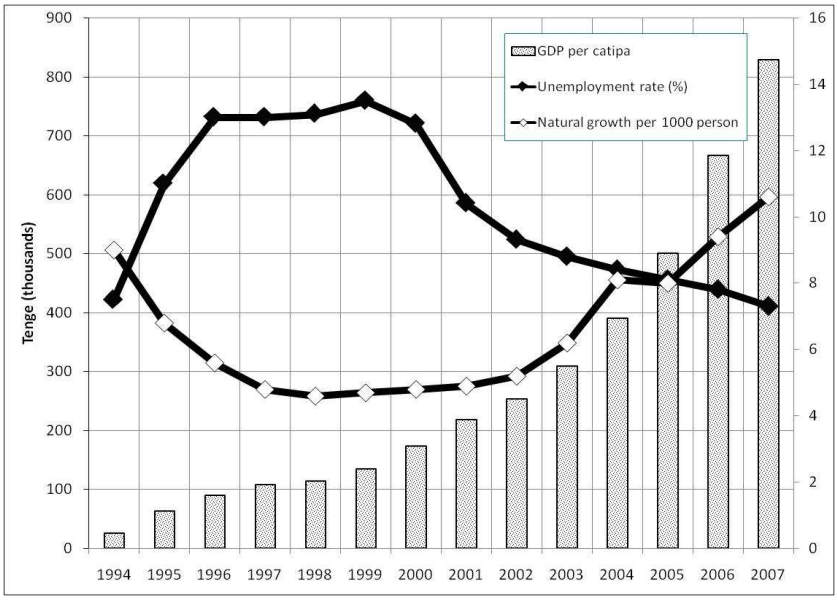
	Male		Female		Male		Female		Male		Female	
	1999	2008	1999	2008	1999	2008	1999	2008	1999	2008	1999	2008
	0-14				15-59				60+			
Kazakhstan	30.4	25.5	27.2	22.5	61.2	66.9	60.1	65.3	8.3	7.6	12.6	12.1
Akmola oblast	28.2	22.9	25.7	20.2	62.3	67.9	59.9	65.1	9.4	9.2	14.3	14.7
Aktobe oblast	32.0	26.2	28.7	22.9	60.4	67.1	60.0	66.5	7.6	6.7	11.3	10.6
Almaty oblast	32.0	25.4	29.5	23.5	60.1	67.3	58.9	65.5	7.9	7.4	11.6	11.1
Atyrau oblast	34.7	29.7	32.1	27.0	58.9	65.0	57.3	63.8	6.4	5.3	10.6	9.2
West-Kazakhstan oblast	29.9	23.5	26.9	20.8	61.1	68.4	59.2	65.7	9.0	8.1	13.9	13.5
Jambyl oblast	33.6	29.5	30.7	26.8	59.4	63.9	58.8	63.2	7.0	6.6	10.5	10.0
Karaganda oblast	27.0	22.3	23.5	18.8	63.4	68.5	61.9	66.0	9.6	9.2	14.6	15.2
Kostanai oblast	26.7	20.3	23.6	17.4	62.7	69.4	60.9	65.8	10.5	10.3	15.6	16.8
Kyzylorda oblast	36.2	31.9	34.8	30.3	58.5	62.4	57.7	62.0	5.3	5.7	7.5	7.8
Mangystau oblast	35.1	31.3	33.1	29.0	60.2	64.5	60.2	64.3	4.7	4.2	6.8	6.6
South-Kazakhstan oblast	38.3	34.0	35.8	31.6	56.0	60.7	55.9	60.8	5.7	5.3	8.3	7.6
Pavlodar oblast	27.0	20.8	23.8	17.9	63.9	70.3	62.8	67.5	9.1	8.9	13.5	14.7
North-Kazakhstan oblast	26.5	20.3	23.7	17.9	62.6	69.6	59.6	65.2	11.0	10.1	16.8	16.9
East-Kazakhstan oblast	26.6	20.8	23.5	18.0	63.2	69.3	60.4	66.0	10.2	9.8	16.1	16.0
Astana city	26.3	19.1	22.0	17.4	65.5	74.4	66.2	73.1	8.2	6.5	11.8	9.5
Almaty city	23.7	21.8	19.0	17.1	66.0	69.6	65.2	68.9	10.3	8.6	15.8	14.0

Source: Demographic Yearbook for 2008

4.3.2 Regional disparities in economic development

In the past, the Kazakhstani economy existed as a highly integrated part of the Soviet Union's production system, specializing in agriculture, metallurgy, and oil and mineral extraction (ADB, 2001). Kazakhstan's rail and road transportation systems were designed to serve the Soviet economy and connect its primary commodity industries with the northern manufacturing markets. As a consequence, the breakup of the USSR in December 1991 and the collapse in demand for Kazakhstan's heavy industry products resulted in reduction of the economy. During the past decade of transition, Kazakhstan has made significant progress in stabilizing its economy and carrying out structural reforms designed to establish a free market economy through privatization of state enterprises and extensive reforms of the banking sector, creation of a national mortgage system to support the development of the private housing market and the creation of private pension funds in 1997–1999. According to International Monetary Fund Kazakhstan's economy has performed strongly during 2000–2005. The energy sector has driven economic growth, thanks to an energy boom that began in 2000. An average rate of GDP growth achieved 10.36%, per capita incomes have grown from $1,229 in 2000 to $3,717 in 2005. A rapid expansion in oil production has led to major economic and social gains. Key social indicators improved further and unemployment continued to decline. According to the Agency of Statistics unemployment rate decreased from 9,3 per cent in 2002 to 7,8 per cent in 2006 (see Figure 8) of the economically active population. Along with national progress, there has been a growing disparity in the country between resource–rich regions with growing industries (such as oil and natural gas) and agricultural regions, as well as between rural and urban areas (L. Tussupbayeva, 2007).

Figure 8 – Dynamics of GDP per capita, Unemployment and Natural growth development in Kazakhstan, 1994–2007



Source: Kazakhstan during the independence period 1991–2007

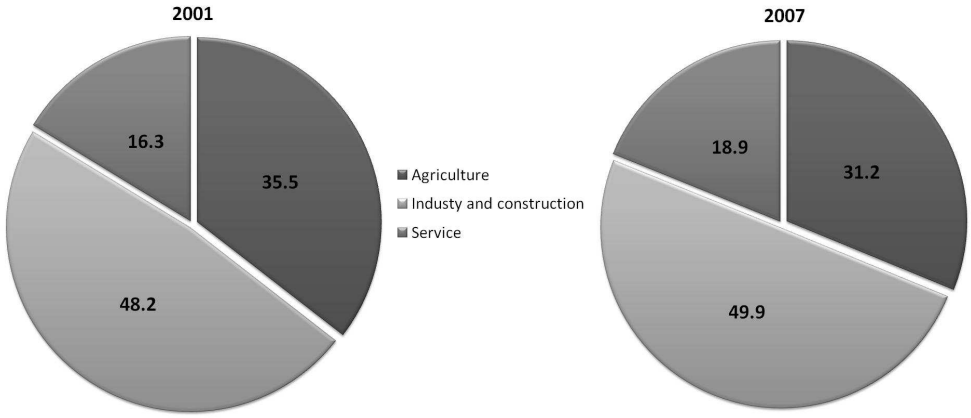
If we look at the GDP per capita development trend and variations of the unemployment and the natural growth dynamics then, we can see that GDP per capita was slowly increasing despite the crisis whereas the natural growth and unemployment strongly fluctuated over time.

During the transition period 1995–1999 there was rapid growth of unemployment and simultaneously decline in natural growth. One may also notice that the year 2004 was the turn of the tide in the Republic's economy because the unemployment decreased visibly and natural growth started to increase, moreover GDP per capita's annual average growth space increased.

Kazakhstani economics has a low share of services in national GRP and people engaged in it with quite high percentage of people working in agriculture and around 50% of all labour force in industry and construction. During the last decade there are no really important changes in the share of population occupied in either one or another sector. Percentage of people working in industry and constructions even has slightly grown mostly due to the relocation of the capital city from Almaty to Astana and boom of construction in the latter. There is very insignificant growth in the numbers of people engaged in services and agriculture Figure 9.

This is a troubling development, because a successful transition to a market economy is normally accompanied by a relatively fast expansion of services.

Figure 9 – Population structure of Kazakhstan by occupation variation (%) in 2001 and 2007



Source: Kazakhstan during the independence period 1991–2007

The key measure of the size of a regional economy is gross regional product (GRP), which is analogous to gross domestic product (GDP). In recent years, Kazakhstan has achieved impressive economic growth, boosted by the booming oil sector. This growth is clearly linked to strong performance in exports, fixed investment, and labor productivity. Because national growth has been based to a large extent on oil, it is no surprise to see that the oil–extracting oblasts significantly increased their share in the national GRP. The new capital, Astana, was another growth center. In Astana, growth was stimulated by construction and the transfer of administrative functions from the former capital, Almaty.

Regional disparities in per capita GRP have been large and rising, as have disparities in the regional distribution of fixed investment. At the same time, regions benefited from the surge in oil revenues, because growth has become more broad–based, with almost all regions posting a strong increase in GRP and fixed investment, which improves prospects for sustaining this growth.

Spillover effects may occur when the fast–growing regions increase demand for the output of other regions. Spillover effects may also occur through the provision of public goods and services, infrastructure investment, and transfer payments to residents of the lagging regions

funded by central government revenues collected disproportionately from the high–growth regions. In addition, residents of slow–growth regions may migrate to fast–growth regions, which increases the supply of a labor in the most dynamic areas and help to reduce unemployment in areas where job creation lags (USAID, 2006).

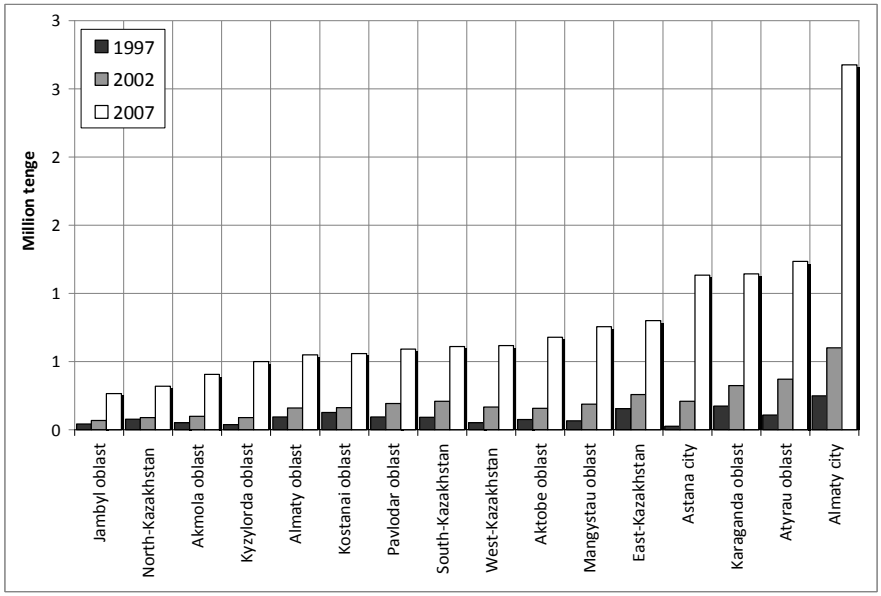
Table 6 – GRP in million tenge by oblasts of Kazakhstan, 1997–2007

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Kazakhstan	1537111	1559163.6	1814299.1	2309460.3	2886240.9	3355205.7	4138027.5	5326965.4	6884817.2	10213731.2	12849794
Akmola oblast	53089	47053	72242	73775	93088	99681	116416	148228	174478	254186	406298
Aktobe oblast	75724	83103	84539	105198	129136	158329	201370	270368	377722	517032	678939
Almaty oblast	94505	87898	91376	109879	141662	159456	188213	232305	290486	408617	550708
Atyrau oblast	108218	94516	127300	236108	290085	372999	510850	596666	752094	1094154	1234008
West-Kazakhstan oblast	53017	54665	71234	108848	141233	166425	200732	329471	368485	512320	617693
Jambyl oblast	44110	41704	43351	49351	57785	68637	94917	122308	150512	192205	266468
Karaganda oblast	176054	175696	212081	266616	303101	324978	379227	462472	618080	922635	1144309
Kostanai oblast	128725	114462	123689	141353	154593	163207	201191	247336	292503	387344	560378
Kyzylorda oblast	38579	34875	35216	51599	64953	90407	118577	163341	219933	363797	499620
Mangystau oblast	66543	54869	78489	122437	141997	188812	208418	275685	402238	593994	756592
South-Kazakhstan oblast	93507	89200	109403	152030	202172	209559	247686	280399	322079	423488	611764
Pavlodar oblast	94368	126400	109353	150941	186569	193307	238880	306193	349654	462208	591978
North-Kazakhstan oblast	79260	57277	65948	62514	89985	90673	104110	135379	164006	236877	320391
East-Kazakhstan oblast	155447	173847	191557	211626	247862	258401	291556	352675	418792	615123	800528
Astana city	25719	46002	77928	115383	154888	209235	287947	419313	643909	957071	1134214
Almaty city	250247	277597	320592	351802	487132	601100	747938	984828	1339847	2272683	2675907

Source: Kazakhstan during the independence period 1991–2007

In 2000–2007, national GRP increased by an estimated 12.8 percent a year *(*see Figure 10*).* Astana, thanks to its new status as the national capital, expanded fastest – 25719 millions tenge in 1997 and 1134214 millions tenge in 2007 (Table 6*).* The main oil–extracting oblast of Atyrau grew almost as fast – 108218 millions tenge and 1234008 millions tenge in 2007, in large part because of high world oil prices, which stimulated oil extraction and exports, as well as international investment in the hydrocarbon sector. The industrial and agricultural oblasts lagged far behind and the slowest growth was in agricultural North Kazakhstan and Jambyl oblasts (USAID, 2006).

Figure 10 – GRP development by regions of Kazakhstan (million tenge) in 1997, 2002 and 2007



Source: Kazakhstan during the independence period 1991–2007

The share of national GRP derived from the oil–extracting oblasts increased significantly between 1999 and 2007, while the share of the industrial and agricultural groups declined substantially. In 1999, industrial oblasts produced 27.7 percent of GRP and the agricultural oblasts 32.1 percent.

The municipal districts and the oil–extracting oblasts produced 18 percent and 22.3 percent, respectively. From 1999 through 2007, every oil–extracting oblast increased its share in national GRP, with offsetting declines in the shares of all the agricultural oblasts and two of three industrial oblasts. For the municipal districts, an increase in the GRP share for the city of Astana was offset in large part by a decline in the share of Almaty city.

Overall, the oil–extracting group produced 29.5 percent of national GRP in 2007, while the remainder was among municipal districts (29.7 percent), agricultural oblasts (21.1 percent), and industrial oblasts (19.7 percent) (see Table 7).Despite the decline during 1999–2002, the city of Almaty gain it's position again as the largest individual region, accounting for 20.8 percent of national GRP in 2007 (USAID, 2006). The most rapid growth took place form 2002 till 2006, however starting from 2007 one may notice the beginning of decline and taking into account the recent World economic recession this trend will continue and even could be quite dramatic for our country.

Table 7 – Distribution of the GRP by the economic orientation of regions in Kazakhstan, (%) 1997–2007

Regions	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oil-producing	**22.3**	**20.7**	**21.9**	**27.0**	**26.6**	**29.1**	**30.0**	**30.7**	**30.8**	**30.2**	**29.5**
Atyrau oblast	7.0	6.1	7.0	10.2	10.1	11.1	12.3	11.2	10.9	10.7	9.6
West-Kazakhstan oblast	3.4	3.5	3.9	4.7	4.9	5.0	4.9	6.2	5.4	5.0	4.8
Kyzylorda oblast	2.5	2.2	1.9	2.2	2.3	2.7	2.9	3.1	3.2	3.6	3.9
Mangystau oblast	4.3	3.5	4.3	5.3	4.9	5.6	5.0	5.2	5.8	5.8	5.9
Aktobe oblast	4.9	5.3	4.7	4.6	4.5	4.7	4.9	5.1	5.5	5.1	5.3
Industrial	**27.7**	**30.5**	**28.3**	**27.2**	**25.6**	**23.1**	**22.0**	**21.1**	**20.1**	**19.6**	**19.7**
Karaganda oblast	11.5	11.3	11.7	11.5	10.5	9.7	9.2	8.7	9.0	9.0	8.9
Pavlodar oblast	6.1	8.1	6.0	6.5	6.5	5.8	5.8	5.7	5.1	4.5	4.6
East-Kazakhstan oblast	10.1	11.1	10.6	9.2	8.6	7.7	7.0	6.6	6.1	6.0	6.2
Agro-industrial	**32.1**	**28.1**	**27.9**	**25.5**	**25.6**	**23.6**	**23.0**	**21.9**	**20.2**	**18.6**	**21.1**
Almaty oblast	6.1	5.6	5.0	4.8	4.9	4.8	4.5	4.4	4.2	4.0	4.3
Akmola oblast	3.5	3.0	4.0	3.2	3.2	3.0	2.8	2.8	2.5	2.5	3.2
Jambyl oblast	2.9	2.7	2.4	2.1	2.0	2.0	2.3	2.3	2.2	1.9	2.1
Kostanai oblast	8.4	7.3	6.8	6.1	5.4	4.9	4.9	4.6	4.2	3.8	4.4
South-Kazakhstan oblast	6.1	5.7	6.0	6.6	7.0	6.2	6.0	5.3	4.7	4.1	4.8
North-Kazakhstan oblast	5.2	3.7	3.6	2.7	3.1	2.7	2.5	2.5	2.4	2.3	2.5
Financial/Service	**18.0**	**20.8**	**22.0**	**20.2**	**22.2**	**24.2**	**25.0**	**26.4**	**28.8**	**31.6**	**29.7**
Astana city	1.7	3.0	4.3	5.0	5.4	6.2	7.0	7.9	9.4	9.4	8.8
Almaty city	16.3	17.8	17.7	15.2	16.9	17.9	18.1	18.5	19.5	22.3	20.8

Source: Kazakhstan during the independence period 1991–2007

Regional disparities in per capita GRP were high and rising. The per capita GRP in the oil–extracting oblasts and the municipal districts stood at almost twice the national level in 2004—97.0 percent and 95.3 percent higher, respectively. The average indicator for the industrial oblasts was virtually the same as the national average. For the agricultural oblasts, however, per capita GRP was barely half the national level.

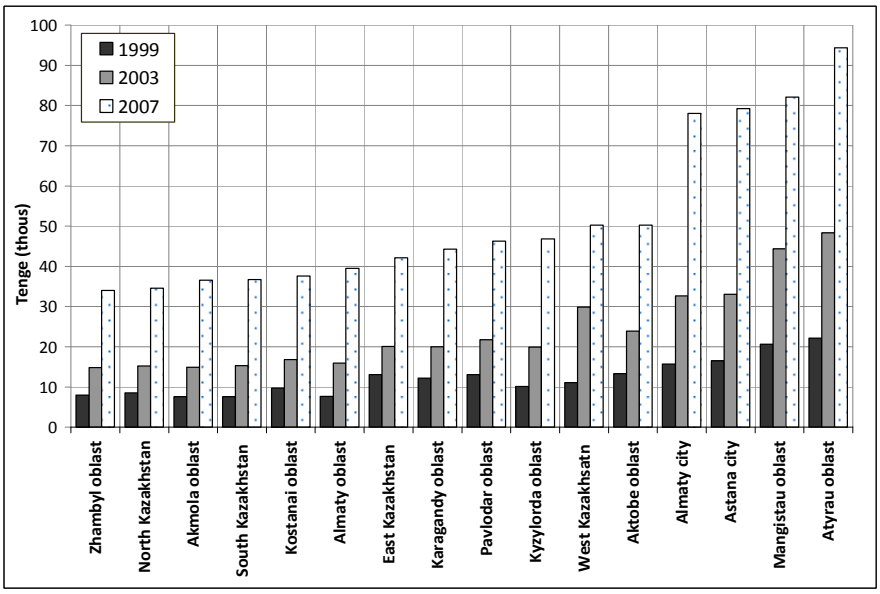
It is important to bear in mind that GRP measures production, not income. A portion of profits, interest, wages, and taxes generated in a region may accrue to entities in other regions, foreign entities, and the central government. Similarly, residents of a region may receive income generated elsewhere. In Kazakhstan, a significant portion of income generated in the oil–

extracting regions was transferred to the central government, other regions, and/or abroad. GRP therefore does not necessarily reflect performance in terms of income (USAID, 2006).

Indeed, regional disparities in per capita household income are substantial and as large as disparities in per capita GRP. The highest average wages is in 2 oil–extracting oblasts Atyrau and Mangystau and then go the municipal cities, after these leading groups stay other oil and natural gas extracting oblast Aktobe, Kyzylorda and West–Kazakhstan oblasts. The agricultural oblasts have the lowest average wage which is almost 3 times lower than in oil–extracting regions, e.g. in Jambyl oblast 35000 tenge in 2007 while in Atyrau oblast 95000 tenge in the same year (see Figure 11). In general the rapid economics growth lead to significant wage's growth and it resulted in extending the differences between regions' average wage levels.

As for the sex differentiations women in Kazakhstan earn much less than men and females are at a disadvantage in finding jobs. Wage inequality is especially severe in oil–extracting oblasts, but it is serious in all regions. In Astana, whose population has surged because of immigration, women are at a particular disadvantage in finding employment. In general, women represent a higher share of unemployment in regions (see Figure 12) with higher net migration rates.

Figure 11– Average monthly wage development by regions in thousands tenge in 1999, 2003 and 2007



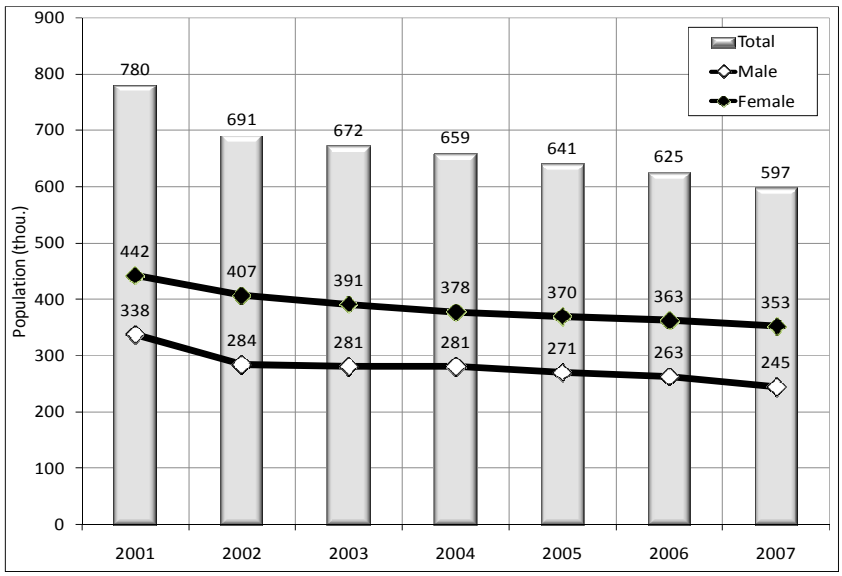
Source: Kazakhstan during the independence period 1991–2007

Some gender gaps also work in the other direction. In particular, life expectancy for women is much higher than for men. Poor health for men is a big problem in all regions, but it is especially worrisome in the industrial oblasts.

Despite some recent improvement in women's wages, they remain much lower than men's wages. In any region of the country, women earn less than men; more troubling, their relative wage also dropped between 1999 and 2007, in all oblasts except for the city of Almaty and East Kazakhstan oblast. Moreover there are more unemployed women than men in Kazakhstan. Specifically, women represented 59 (352.7 thousands) percent of total unemployment in 2007, edging up from 56.7 (442.3 thousands) percent in 2001 (see Figure 12).

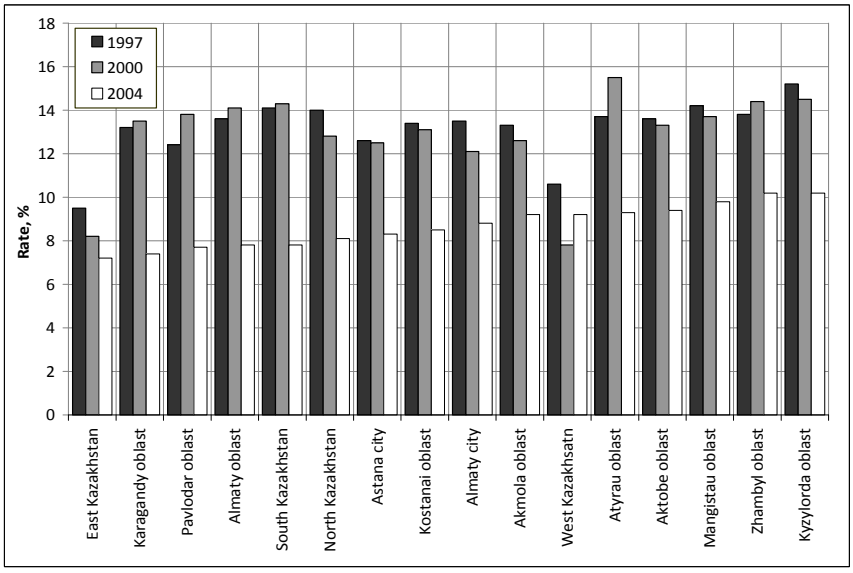
Concerning the regional disparities in unemployment level then, for the 2004 there is no really big difference between regions the rate varies between 7 and 10 percents. Kyzylorda and Jambyl oblasts are on the top with rates above 10 percent (see Figure 13). The industrial oblasts have the smallest unemployment rates. The general trend is the decline, however the last available data is for 2004 and therefore we cannot make a proper judgment of the real situation without the data for the more recent years, and moreover the current economic crisis will not be gone without a tremendous impact on the economic situation in the country.

Figure 12 – Unemployment in Kazakhstan by sex (thousand people), 2001–2007



Source: Kazakhstan during the independence period 1991–2007

Figure 13 – Unemployment rate by regions of Kazakhstan in 1997, 2000 and 2004



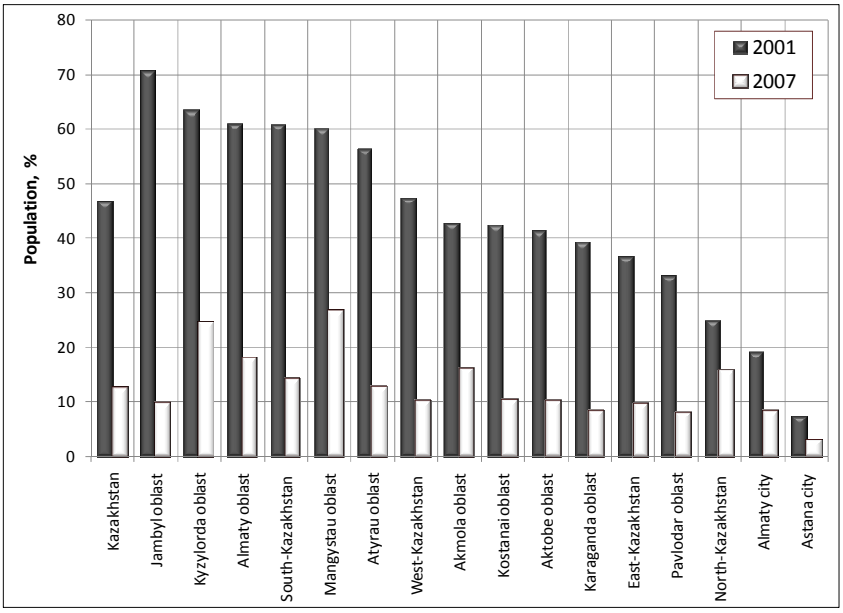
Source: www.undp.kz/infobase

It is well–known fact that there is a close connection between unemployment level and poverty. Throughout Kazakhstan, proportion of people living below subsistence level has been declining. Although growth has benefited some regions more than others, poverty declined in nearly every region between 2000 and 2006.

This decline is further evidence that growth has had a broad impact on poverty rates and not just in the growth poles. What is surprising is that poverty rates are quite high in the oil–rich regions. Mangystau is of most concern, but Kyzylorda, Akmola and North–Kazakhstna oblasts also lag behind the national average, to a lesser degree (see Figure 14). As poverty has declined, income inequality has also fallen in most regions. The recent decline in the poverty headcount (gauged by minimum subsistence) is impressive. Nationally, the poverty rate fell from 34.5 percent in 1999 to 16.1 percent in 2004 (USAID, 2006).

Although poverty rates are highest in the oil–mining regions, because of the low population size, each of these regions accounts for less than 5 percent of the total population living in poverty however, the agricultural regions, which are generally larger, account for 47 percent of the poor population (USAID, 2006) in Kazakhstan.

Figure 14 – Proportion of population living below subsistence level (poverty headcount) in 2001 and 2006 by regions of Kazakhstan



Source: Kazakhstan during the independence period 1991–2007

Taking into consideration all above–mentioned facts it became evident that there is a significant asymmetry between regions' economic and social development. This could be partly explained by the Soviet legacy and partly by the transition to the market economy with subsequent negative effects on country's economic situation which forced people to move out of Kazakhstan or relocate from one region to another in search of better life and hopes to be employed.

Chapter 5

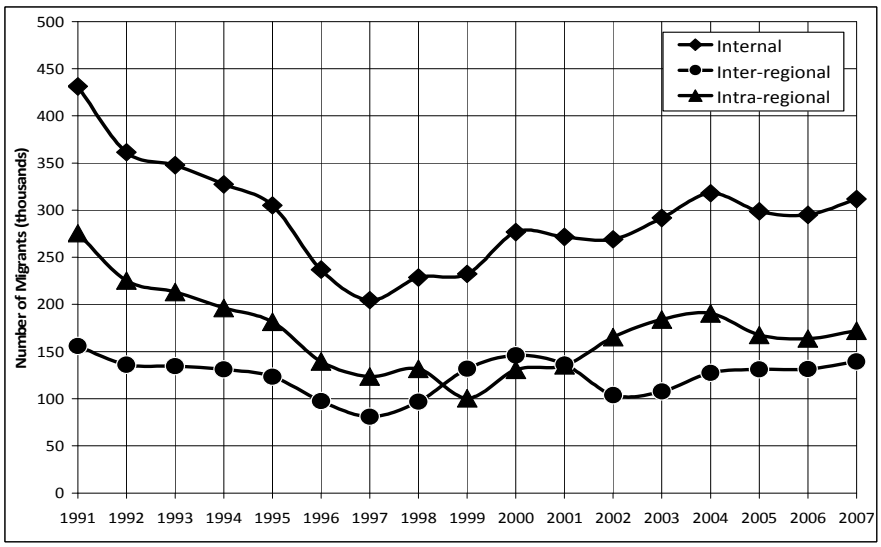
Analyses on interregional migration in Kazakhstan

5.1 Volume, patterns and direction of interregional migration

In the previous chapters we have specified historical background of migration in Kazakhstan, outlined the main aims and purposes of the paper, described socio–economic disparities of the regions, made literature overview and defined methodology which will be used; therefore the present chapter is devoted to analysis of the determinants of interregional migration in the country, also we will try to give an answer to our research questions.

Movements of the population within the country with following change of a place of residence are called internal migration. There are two types of the internal migration in Kazakhstan – interregional and intra–regional. From 1991 till 2007 more than 5 millions of internal (interregional + intra–regional) migrants were registered in the country. According to Lee (1967, p.53) the volume of migration varies with fluctuations in the economy, indeed after the breakup of the Soviet Union number of internal migrants declined significantly from 431262 people in 1991 to 361356 in 1992 (see Figure 15).

Figure 15 – Number of internal migrants in Kazakhstan (thousands), 1991–2007

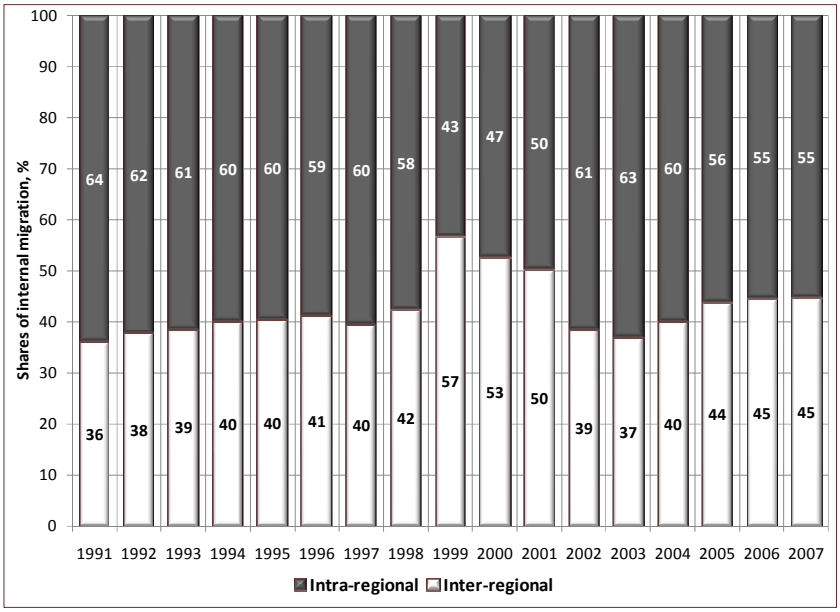


Source: Kazakhstan during the independence period 1991–2007

During the transition period mobility of people within the oblasts was the lowest; however relocation of the capital city to Astana stimulated interregional migration and number of people moving between oblasts from 1999 till 2001 even exceeded number of intra–regional migrants, moreover from 131815 interregional migrants in 1999, almost half (60533 people) was made up by migrants to Astana.

The volume of the intra–regional migration was always higher in Kazakhstan except for the years after the unique event in the history of Kazakhstan as transferring of the capital city when an excess interregional migration took place. People change places of residence more frequently within one region due to cost of movement and housing complications, usually very profitable financial benefits could drive people to move to other regions neglecting difficulties of migration. However, during the last several years the share of inter– and intra–regional migrations relatively stabilized on 45 % and 55 % respectively levels the numbers of interregional migrants have been increasing (see Figure 16).

Figure 16 – Share of interregional and intra–regional migration in Kazakhstan (%), 1991–2007



Source: Kazakhstan during the independence period 1991–2007

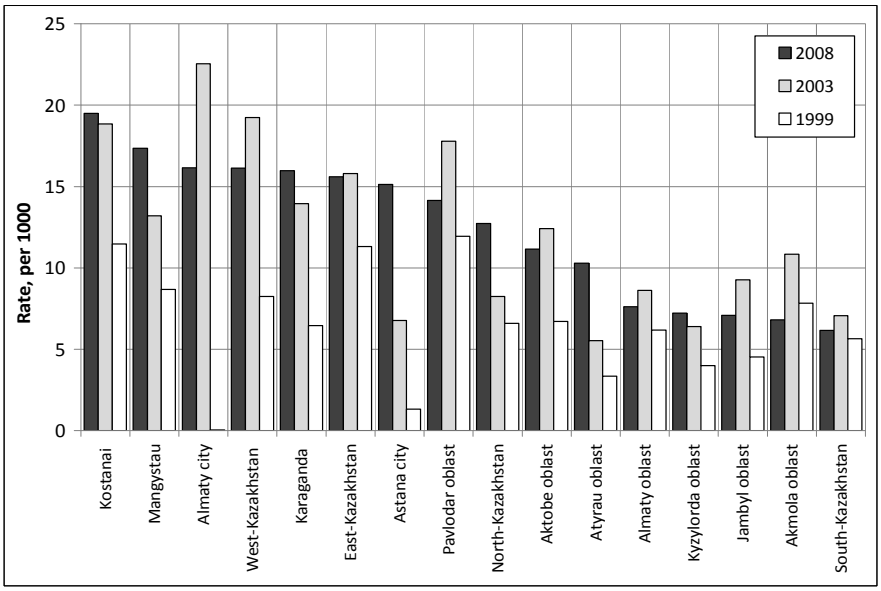
Intra–regional migration trends in the regional context are quite disparate. Despite the increase of intensity in the mid 2000's in connection with crisis in the contraction sector and following financial recession in the late 2000's the volume of intra–regional migration in most oblasts fell, especially in Almaty city, West–Kazakhstan, Pavlodar, Aktobe, Akmola and Jambyl oblasts. People are more mobile in oil–mining and industrial oblasts such as East–Kazakhstan and Mangystau where rates are 15.6 and 17.3 person per 1000 population respectively in 2008 (see Figure 17). Oblasts such as West–Kazakhstan, Pavlodar, Aktobe, Almaty, Jambyl, Akmola and South–Kazakhstan had a significant increase of the intra–regional migration intensity in 2003 as a result of rapid economic growth in the country, however due to the current recession all these regions are experiencing decline again while the new capital – Astana and the major oil–mining oblasts have a stable increase.

In general the size of intra–regional migration is lower in the agrarian regions because more than the half of the population in these regions lives in rural areas attached to agricultural holdings because it is the main sources of their subsistence. After the collapse of the Soviet Union agricultural sector of the country severely deteriorated most of schools, hospitals have been closed; infrastructure degenerated due to the shortage of financing and lack of appropriate administration. Furthermore people from agrarian regions can hardly afford to take loans or give for their children good enough education in order to find a well–paid job in the city. Also in such oblasts as Almaty, Jambyl, South–Kazakhstan even in the cities quite high unemployment and very few chances for migrants from auls to form up in cities and many people in these regions prefer to remain in the agrarian settlements.

In the industrial and oil–mining oblasts the situation is a bit different where noticeable distinctions exist between urban and rural settlements. For example, in Mangystau and Atyrau oblasts' auls' mortality among all age groups are significantly higher and medical services are very poor. In many regions in Kazakhstan a potable water shortage is a big problem especially in oil–mining rural regions as a consequence people try to move out from the depressive auls to more developed towns and cities.

So, as it was already said, since the second half of the 2000's the intensities of interregional and intra–regional migration are equalizing i.e. that means people in Kazakhstan move from one oblast to another as often as they change their place of residence within a single oblast and the prevalence of males over females taking part in these movements is fluctuating with the lapse of time.

Figure 17 – Intra–regional migration rate for regions of Kazakhstan in 1999, 2003 and 2008



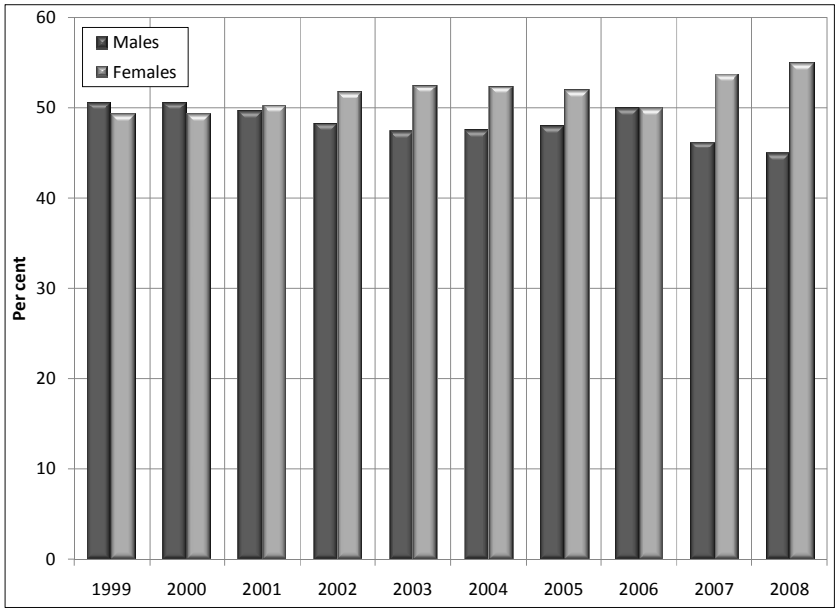
Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

For instance, till the start of the economic recovery in Kazakhstan men have prevailed women however since 2001 female migrants became dominant than males, in addition during the last several years their number per 1000 people is significantly increasing (see Figure 18). In 2006 male migrants per 1000 people again rose however in absolute numbers females

outnumbered them starting from 2001 when 68604 of interregional migrants were represented by females while 67786 by males and 86883 to 71091 in 2008 respectively. And still it is difficult to make any rigour conclusion without disaggregation of age, sex and residence specific data for interregional migration. Moreover, the share of females is higher to total population (52%) also there is a fact that usually women move as 'tied movers' following their husbands making career. Futhermore, we should take into consideration that the postponed marriages and higher level of education of women as well as high level of women's labour force participation and emancipation processes may also add to women's higher mobility.

The sex distribution of migrants in the regional context has been changing during the last decade. In 1999 oblasts like Akmola, Karaganda, Jambyl, Kostanai, East–Kazakhstan and Kyzylorda were losing migrants of both sexes while South–Kazakhstan oblast in the same year left more men than women in contrast to Almaty oblast which lost more women than men. Consequently Almaty city as the closest and the most desirable destination for people from Almaty oblast received more female migrants than male. Only Astana city as a new capital gained the most from the interregional migration around 30 thousands of male population and slightly more than 26 thousands of females (see Figures 19.1 and 19.3).

Figure 18 – Interregional migration rate by sex in Kazakhstan (per 1000 people), 1999–2008



Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

In the year 2007 South–Kazakhstan oblast replaced Akmola oblast as a region with highest out–migration of both sexes. From the Figures 19.2 and 19.4 one can see an obvious sign of the economic recovery in the Republic because in this year the oblasts with the highest losses are represented by agricultural oblasts like Jambyl, North and South–Kazakhstan oblasts also by East–Kazakhstan with Kyzylorda and Kostanai where the main push factor is a serious ecological situation and in the first three agrarian oblasts high unemployment force people move to more environmental safe regions and to oblasts with higher wage and lower unemployment levels. Moreover, the economic growth is closely connected with the increase of oil prices and that made oil–extracting oblasts quite attractive for job seekers and as a result Atyrau and

Mangystau oblasts started to have a positive net migration. The two municipal districts Astana and Almaty are still the most desirable places for interregional migrants to go, however the net migration gains in 2007 are less for both cities than in 1999 which means people start to be interested in moving to other regions.

Bearing in mind foresaid facts we can sum up that volume and direction of interregional migration flows have been changing over time. If decade ago there were two main destinations in Kazakhstan, the first, Astana as a new capital city was attracting massive flows from almost all regions and especially from the closest oblasts and the second Almaty city – the biggest city of the country and the cultural and financial centre with promising opportunities for everyone, then with economic development and heavy foreign investments in oil stocks the western oil–mining oblasts have also become an important migrants receiving region from all over the country.

Figures 19 – Number of interregional migrants by sex for regions of Kazakhstan (thousands) in 1999 and 2007

Figure 19.1 Male, 1999

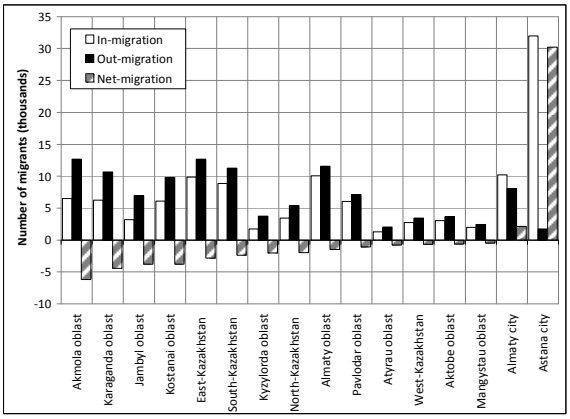


Figure 19.2 Male, 2007

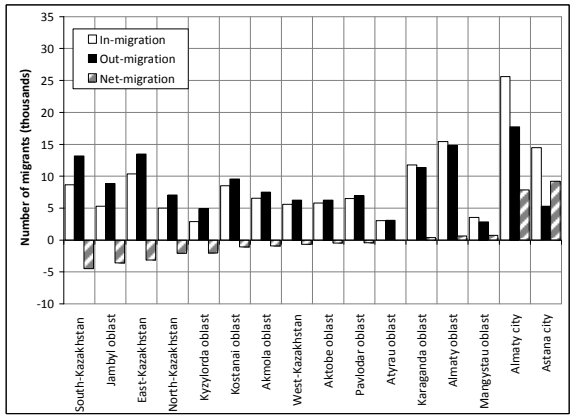


Figure 19.3 Female, 1999

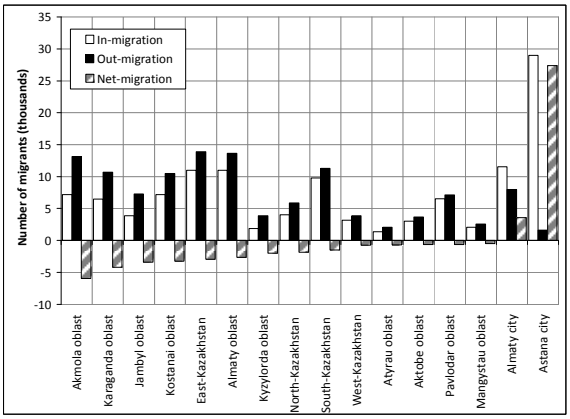
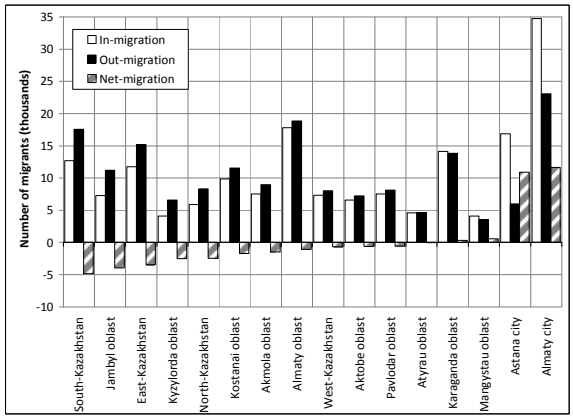


Figure 19.4 Female, 2007



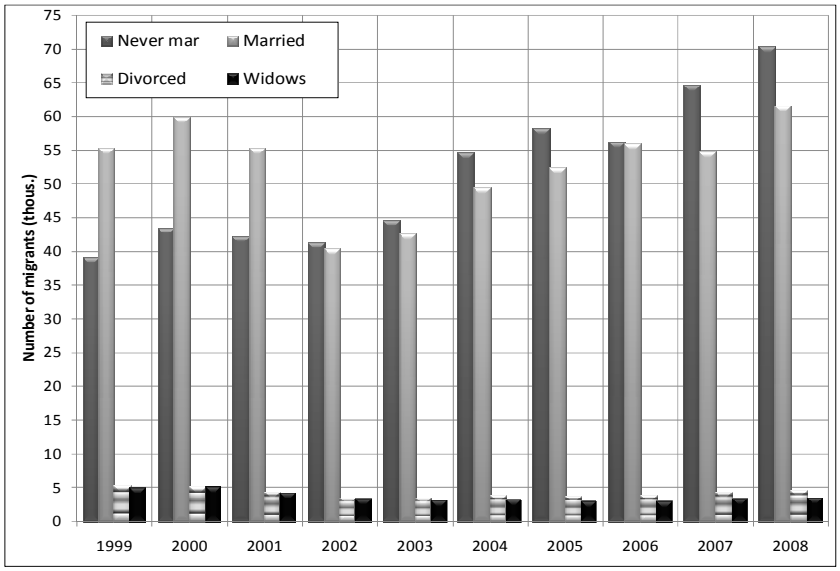
Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

As regard to the marital status of interregional migrants then married and never married people significantly prevail among migrants rather than divorced and widowed during the entire observation period, however till 2002 married migrants exceeded never married. The number of married people moving between regions increased from 55233 in 1999 to 61576 in 2008 therewith the number of never married migrants almost doubled from 38938 in 1999 to 70272 in

2008 (see Figure 20). On the on hand it could be explained by the fact that single or never married people with high level of education and changed attitudes towards nuptial behaviour become more mobile nowadays and on the other hand the proportion of unmarried is increasing in total population. Moreover as we will mention in the following section, according to the age migration schedules the most mobile population is predominantly young men and women aged 20–24 and this group is mostly migrate between regions for the purposes of education and in search of employment and partnership.

The socio–economical changes of 1990's have changed the nuptial behaviour with an increasing tendency of late marriages, non–marriages and couple's opting to cohabitate (UNFPA, 2005). The changes in marital status of interregional migrants reflect a household structure of the population. For instance, in 1999 the average household size was 3.6 people, 3.1 in urban and 4.4 in rural areas. The single–member households were accounted for 14.2%. The nuclear households are the most widespread form (62% out of 4,152.7 households in 1999) with average size 3.5 people (3.2 in urban and 4.0 in rural areas). The extended households' (23% of total households) average size is equal to 5.2 people. All these alterations in the society show the influence of the social environment on migration behaviour and migrants' characteristics (Tussupbayeva, 2007).

Figure 20 – Number of inter–regional migrants aged 16+ by marital status in Kazakhstan, 1999–2008



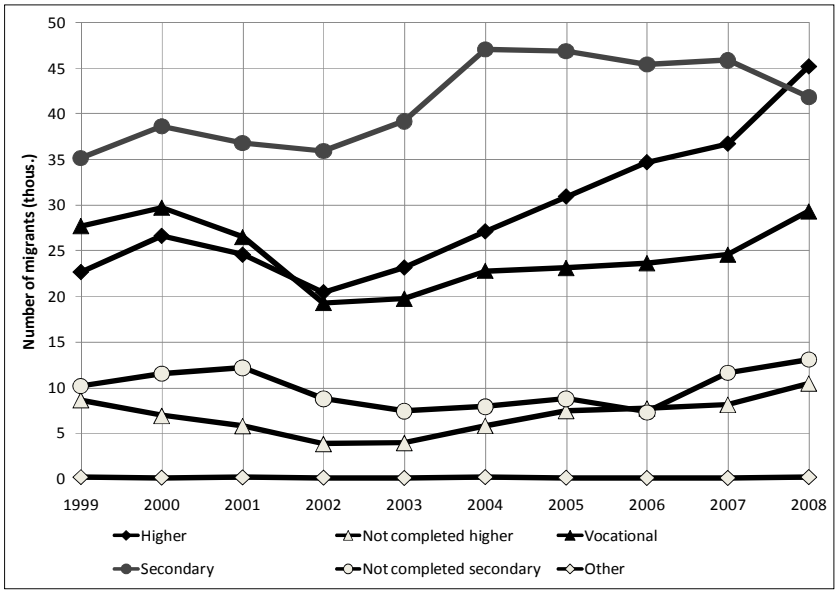
Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

In comparison with the migrants of the previous decade the educational level of interregional migrants is increasing during the period 1999–2008. In Kazakhstan the majority of people moving between regions have a secondary education i.e. number of migrants with secondary education is the highest – 35129 in 1999 and 41825 in 2008, however with continuing economic growth in the country the proportion of people with higher educational level is also growing, moreover for the last year of observation they even outnumbered migrants with secondary education and amounted 45172. The least mobile group of migrants aged 16 + is

with even less than not completed secondary education also share of people with not completed higher and secondary educations is not significant among interregional migrants (see Figure 21).

As it was mentioned above, an education is the capital of a person and educated people is the capital of a country besides, despite the fact that there are many reasons for population movement within a country or between countries however the main pulling factor is employment. In Kazakhstan nowadays as a consequence of the massive emigration of highly skilled population during the transitional period there is an acute shortage of the qualified workers especially in the new capital city Astana, in the financial centre – Almaty and in the oil–mining oblasts. And this could be one of the main determinants of the population distribution in the regional aspect furthermore the growing number of highly educated migrants incite to conclude that migration could be education selective.

Figure 21 – Number of inter–regional migrants aged 16+ in Kazakhstan by education, 1999–2008

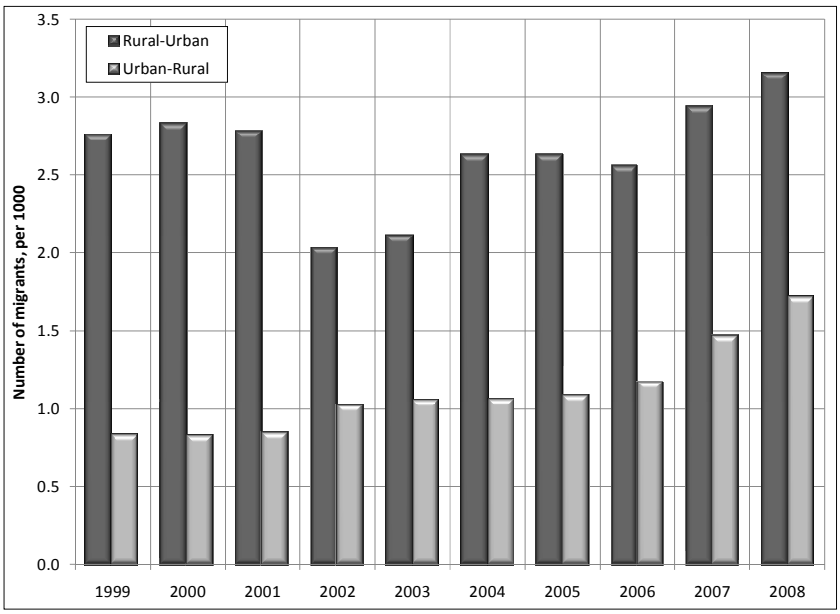


Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

From the economic point of view Kazakhstan is an agro–industrial country therefore 47% of its population still live in the rural areas in 2008 and this proportion varies substantially between regions. For instance, almost 77% of Almaty oblast's population is rural reside whereas only 22% of Karaganda oblast's population is rural. Moreover the share of rural population to total population is increasing e.g. in 1999 it was around 46% an average for the country and it amounted more than 52% in 2008. The growth could be explained by the lower educational level of women in rural areas and as a result higher fertility in contrast to cities in addition to that from the mid 90's the government started to encourage the Kazakh Diaspora in other countries to return to homeland. These ethnic Kazakh immigrants mostly from the former Soviet Union countries also from Afghanistan, Mongolia and Iran, whose ancestor fled the Soviet Republics during the economic reforms in 1920's and 30's, are prefer to stay in rural areas in the South of part of the country which has already the highest population density.

They do so because of the comfortable climatic situation in which they used to live before moreover they have quite high fertility level too. All these creates economic tension in the South regions of Kazakhstan and scarcity of working places as a result an immense number of low skilled laborers from rural areas go to other regions with better situations in the labour force market.

Figure 22 – Directions of interregional migration in Kazakhstan (per 1000 people), 1999–2008



Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

The interregional migration intensity from rural places to urban was 2.7 people per 1000 population in 1999 and now the rate is around 3.2 people in 2008 (see Figure 22). Until the year 2002 rural–urban migration was more than 3 times higher than urban–rural in spite of the growth of urban–rural migration rate during the last several years rural–urban direction still 2 times outnumbers the first.

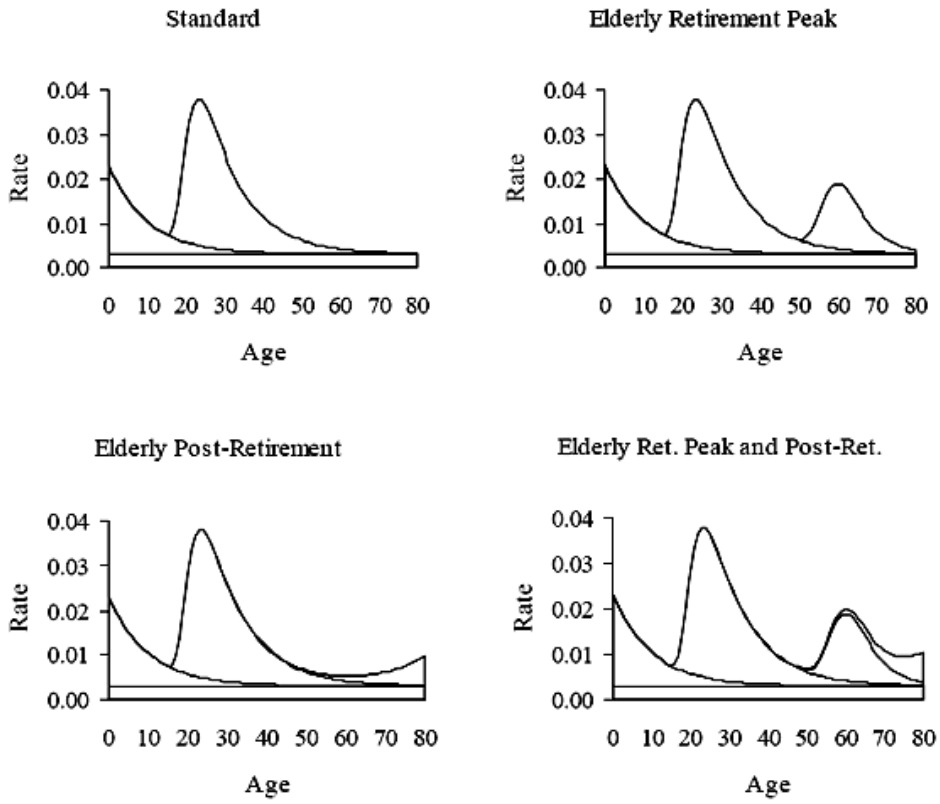
5.2 Age migration schedules

Internal migration and national population redistribution are universal phenomena experienced by all nations. The patterns, antecedents, and consequences of such a phenomena for the first time seriously started to interest demographers at the International Institute for Applied Systems Analysis in Austria in the late 1970's. Rogers and Castro were first who assembled an international data base on contemporary internal migration in the developed nations and successfully fitted these data with a mathematical function, since then it calls the Rogers–Castro multi–exponential model migration schedules (Rogers and Castro 1981a).

Rogers and Castro (1981a) put forward three families of multi–exponential model migration schedules: a *standard*, an *elderly post–retirement migration* model, and an elderly *retirement peak* model. Several years later, Rogers and Watkins (1987) added an *elderly retirement peak plus post–retirement* model. Their analysis of over 500 age profiles of migration found throughout the more developed world made the convincing argument that migration has strong

regularities in age patterns, much like fertility and mortality. Stylized schedules of these four families are set out in Figure 23 (Raymer and Rogers, 2006).

Figure 23– The four main families of multi–exponential model migration schedules



Source: J. Raymer and A. Rogers, 2006

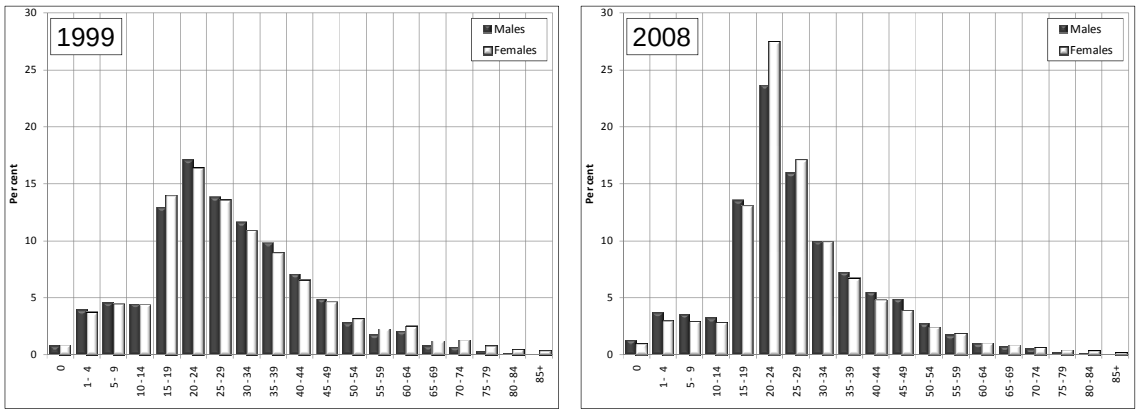
The most commonly found schedule is the standard schedule, comprised of three components: a constant, a negative exponential curve representing the pre–labour force ages, and a double exponential (unimodal) curve representing the labour force ages (Raymer and Rogers, 2006). In this paper we try to describe age–specific migration patterns in Kazakhstan in order to find out which model of migration schedule is most adequately exhibits interregional migration flow in the country.

Empirical schedules of age–specific rates exhibit remarkably persistent regularities in age pattern (Raymer and Rogers, 2006). Fertility schedule, for example, starts from around 15 age and increases till 25 and 30 then declines again at ages close to 50 and reaches zero. Mortality rate is moderately high after the birth then it declines to the level very close to zero at ages 10–15 and then it begins to rise again, from the age 50 it increases quite sharply and it is very high in advanced ages. The same models could be found also for other events in the life course of a person.

The most prominent regularity in age–specific schedules of migration is the high concentration of migration among young adults; rates of migration also are high among children, starting with a peak during the first year of life, dropping to a low point at about age 16, turning sharply upward to a peak near 20 to 22, and declining regularly thereafter, except for

a possible slight hump at the onset of retirement and possibly an upward slope after that hump (Raymer and Rogers, 2006).

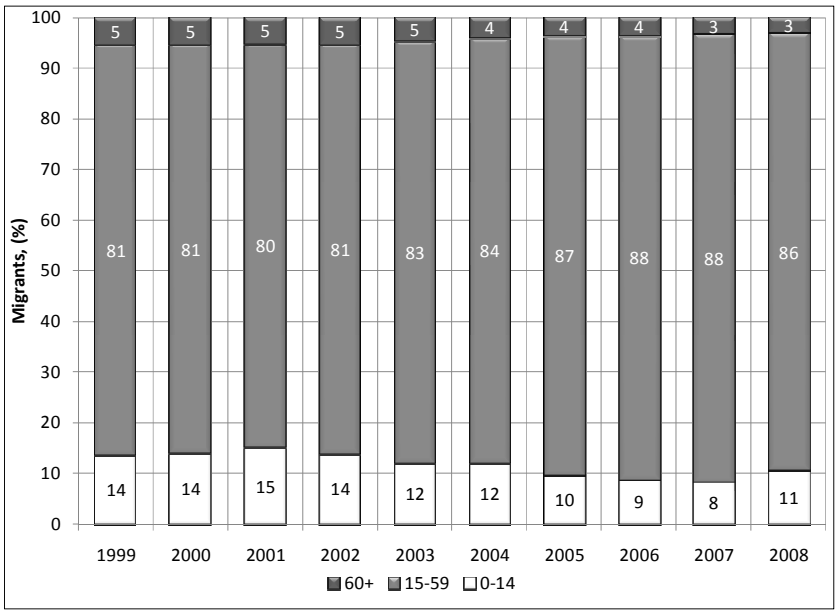
Figure 24 – Inter–regional migration by age and sex, for 1999 and 2008



Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

If we look at the interregional migration schedules of the Kazakhstani population for the year's 1999 and 2008 then one will find that the shape of the graph is relatively similar to the standard model of Rogers and Castro's with slight differences between the years. These differences could be understood connected with the economic processes of the observing period.

Figure 25 – Structure of the interregional migration in Kazakhstan by age groups (%), 1999–2008



Source: The Agency of Statistics of the Republic of Kazakhstan (unpublished data)

The end of 90's was a time of the interregional migration surge due to the relocation of the capital city. From 1997 civil servants with families were obliged to move from the previous capital to Astana moreover due to the rapid building of the new capital city Astana became very attractive destination for the job seekers from all over the country as a result in 1999 till the age 50 male population is dominated among the interregional migrants. Among retired population number of female migrants is higher because of the shorter life expectancy, poor health

conditions and high death rate of men in this age group. Such kind of regularities for interregional migration in 1999 might be related to the changes of employment and moving closer to a working place.

As for the age schedules in 2008's migration then as a consequences of the economic growth, changing attitudes toward nuptiality among young adults, especially females, emancipation, tendency to get higher education led to significant increase of women proportion among migrants and high mobility of young age groups 15 to 29 (see Figure 24).

The age distribution of the interregional migrants for the country as a whole is represented as following – more than 80% for working age group (15–59) for the period 1999–2008 and from year to year the proportion of this group is increasing, it was 81% in 1999 and became 86% in 2008. Young people of the country is more mobile nowadays than before while the older age group is vice verse, their share was 5% in 1999 in contrast to 3% in 2008 among interregional migrant, besides proportion of children moving with their parents is also decreasing (see Figure 25). Shortly, people of working and studying age groups are the most mobile group of the population than people of retired age and children moreover the proportion of women among them is growing over time.

In conclusion, I would say that the specification of the migration schedules is equally important task as determination of fertility and mortality schedules. The basic age patterns of migration would always exist it could just shift to older or younger ages over time.

5.3 An impact of the capital city relocation on interregional migration flows

In December 1997, the capital of Kazakhstan was relocated from Almaty to Akmola, to a provincial city in the centre of the republic. In the mid–1990's, the Akmola was an industrial, educational and cultural centre of the regional importance, however the infrastructure of the city could not meet the new capital status's demands and required a significant transformation and development.

Relocation of the capital – is a unique phenomenon in the history of any county and it should have very serious motives to do so. The decision to move the capital was taken in July 6, 1994 and as an official reason for the transfer was announced the Almaty's unfavorable geographical location on the seismic zone and economic constraints to develop. However, the real causes of moving the capital have a geopolitical or rather ethno–political nature. By the end of 90's Kazakhstan was "split" into so called "Russian–speaking" industrial north and "Kazakh" agrarian south. In East–Kazakhstan, Karaganda, Kostanai, Akmola oblasts in 1989 Russians made up 45–65% while only 17 to 28% of populations were represented by Kazakhs. For example, in the Akmola oblast in this period lived more than 1 million population, of which: 448 thousand or 44.7% were Russians, 123.7 thousand or 12.3% Germans, 94.4 thousand or 9.4% Ukrainians, 28, 7 thousand or 2.8% Belarusians and the number of Kazakh amounted 224.8 thousands people or 22.4%.

In the northern regions predominantly populated by non–Kazakhs with their share ranged from 65 to 75% locate the major industrial manufacturers and enterprises where nearly three–

quarters of employees were Russian–speaking at that time, and as a consequence of the transitional period in economy of the county and massive out–migration in the mid 90's their proportion seriously shortened. A significant part of those emigrants were population at working ages with children and this loss of economically active people lead to economic and socio-demographic destabilization in these regions.

At the same time in the South and West parts of the country from 55 to 80% of total oblasts' populations were represented by natives, who lived mainly in urban areas with destructed economic situations, high unemployment, poor infrastructure and this was worsened by overpopulation and surplus of low skilled labour force.

Table 8 – Population of Astana, 1998–2008

Year	Astana	Including		Number of males per 1000 females
	Total population (thous.)	Male	Female	
1998	300.5	140.5	160.0	878
1999	326.9	152.4	174.5	873
2000	381.0	181.0	200.0	905
2001	440.2	211.9	228.3	928
2002	493.1	239.2	253.9	942
2003	502.0	243.8	258.2	944
2004	510.5	248.0	262.5	945
2005	529.3	257.2	272.2	945
2006	550.4	267.9	282.6	948
2007	574.4	282.3	292.2	966
2008	602.7	295.4	307.3	961

Source: Analytical notes on Astana city, 2008

Being aware of such a critical situation in the country, the real reason of the capital city change was a desire of the government to eliminate the interregional disparities in socio–economic development and population distribution. Moreover, concurrently with the capital city transfer, administrative–territorial reforms were carried out in April–May 1997 which was aimed to amalgamate five regions and curtail 19 oblasts of Kazakhstan to 14 provinces – oblasts and two major municipal cities. All those measures were taken to strengthen territorial integrity and prevent separatist sentiment and movements and also redistribute investments.

After the government's decision there was two years of the preparatory work and according to the Decree of the president from 20th October 1997 the city of Akmola in December 10, 1997 was declared as the new capital of Kazakhstan and from May 6, 1998 Akmola was renamed to Astana.

This event had a profound effect on interregional migration directions. The new capital became a very attractive destination for many people and Astana started to experience quite intensive development. However, only several years earlier the city was facing serious complication in demographic and economic situations with falling fertility, increased mortality and as a result – reduction of natural growth in addition to that high emigration of non–kazakhs contributed to population decrease.

But since 1997 the situation changed to opposite, first migrants was mostly from Almaty the civil servants with their families and from the nearest regions. In comparison with 1998 population of the city more than doubled in 2008 from 300487 to 602684 people (see Table 8).

Table 9 – Age and sex structure of Astana city's population (%) in 1999 and 2008

	Total	Including		Number of males per 1000 females
		Male	Female	
1999				
Total population	100.0	46.6	53.4	873
0-14	24.0	26.3	22.0	1044
15-59	65.9	65.5	66.2	864
60 +	10.1	8.2	11.8	607
2008				
Total population	100.0	49.0	51.0	961
0-14	18.3	19.1	17.4	1054
15-59	73.8	74.4	73.1	978
60 +	8.0	6.5	9.5	656

Source: Analytical notes on Astana city, 2008

The main characteristics of the population are its age and sex structure. As a consequence of the massive out migration in the mid 90's the proportion of males declined to 878 men per 1000 women in 1999 but the change of the city's status and generous investments to it's development begot an inflow of civil servants, constructor and other workers that contributed in an increase the male's share to 961 per 1000 females in 2008. In the year 2008 number of people at working age made up 73.8% of the total population in Astana while this share was 66% in 1999. Percentage of women among children and young adults is slightly lower than of men however at retired age group female's share is higher for 3% to compare to males (see Table 9).

Table 10 – Natural growth of population in Astana, 1998–2008

Year	Per 1000 population		
	Births	Deaths	Growth
1998	10.6	8.4	2.2
1999	10.6	8.3	2.3
2000	10.9	7.2	3.7
2001	10.2	7.0	3.2
2002	11.2	6.9	4.3
2003	12.7	6.5	6.2
2004	15.4	6.5	8.9
2005	16.7	6.7	10.0
2006	17.8	6.6	11.2
2007	21.0	6.2	14.8

Source: Analytical notes on Astana city, 2008

As a result of a rapid growth of the city and continuous in–migration flows from all other parts of the county mostly of male workers with or without their family strongly changed population structure of Astana city – it become younger. And that is well known tact that the highest fertility is observed among young adults and right the number of such adults are the highest among migrants coming to Astana. Thus, natural growth of the capital's population is

increased from 2.2 people per 1000 population in 1998 to 14.8 in 2007 i.e. sevenfold. Number of births more than doubled in 2007 than decade ago and mortality decreased slightly (see Table 10).

In addition to the natural growth the net–migration gain heightened during the last ten years. With economic turmoil after the collapse of the Soviet Union Akmola oblast, including Astana (Akmola till 1997) city were inter alia regions which have experienced sizeable losses during the transitional period. In 1998 the international net–migration accounted –5949 people in Astana but this negative emigration was engrossed by in–flow of 34572 migrants from other regions within the country and in total taking into account interregional out–flow Astana got 26118 people in 1998. The total net–migration double already the next year 53242 people in 1999 and it was quite high till 2002 when interregional migration to the city slowed down and increased again from 2004 to around 15000 people net–migration per year (see Table 11).

Table 11 – Migration in Astana, 1998–2007

Year	Total			Including migration					
				International			Interregional		
	Net - migration	In - migration	Out - migration	Net - migration	Immigration	Emigration	Net - migration	In - flow	Out - flow
1998	26118	35277	9159	-5949	705	6654	32067	34572	2505
1999	53242	61772	8530	-4367	775	5142	57609	60997	3388
2000	57706	68824	11118	-6406	604	7010	64112	68220	4108
2001	51376	62380	11004	-3833	2055	5888	55209	60325	5116
2002	6761	15217	8456	-2621	705	3326	9382	14512	5130
2003	5372	15243	9871	-429	1317	1746	5801	13926	8125
2004	14186	24542	10356	-633	958	1591	14819	23584	8765
2005	15679	26754	11075	-462	625	1087	16141	26129	9988
2006	17708	29450	11742	-232	455	687	17938	28995	11057
2007	19303	31526	12223	-782	184	966	20085	31342	11257
Total	267451	370985	103534	-25714	8383	34097	293163	362602	69439

Source: Analytical notes on Astana city, 2008

In the regional context, the majority of people who was arriving to the new capital were residence of Akmola oblast as the closest oblast – 14858 net interregional gains in 1999, than goes Almaty as a previous capital city with 6936. Karaganda and Kostanai oblasts also sent 7021 and 5316 migrants because of the closer location than other oblasts however a high number of migrants from South–Kazakhstan and Jambyl oblasts explains by the overpopulation of these regions where the highest fertility rates and shortage of working places. Decade later migration to Astana significantly slowed down from 57609 in 1999 a total net–migration fell to 25677 in 2008 and regions from where Astana is receiving migrants also changed. Akmola oblast is still a major sender of migrants – 8863 however number of migrants from the previous capital is almost three times lessened comparing with 1999; only 2351 people arrived from Almaty in 2008 (see Table 12). South–Kazakhstan and Jambyl oblasts keep sending people but slightly lower numbers than before. People from East–Kazakhstan, North–Kazakhstan and Kyzylorda oblasts are also attracted by supposed employment, study and marriage opportunities in Astana. The residence of the main oil–mining oblasts Atyrau and Mangystau are the least interested in moving to Astana, of course there is no sense to go so far in search of work on the one hand and on the other these oblasts' have the highest average wage levels and GRP per capita.

The changes related to an increase of the natural growth of the population and migratory movements to the city during period 1997–2008 most profound effected the ethnographic composition of the Astana's population. Compared with 1999, the number of Kazakhs among total population of the city increased for 20% in 2008, their share reached 61.7% against 40% in 1999. According to the census in 1989 Kazakhs made up less than 18% of the future capital city's population, maybe the loss of mostly highly educated and skilled non–Kazakhs after the Independence and as a result increase of the native's share was the only positive side of the hefty out–migration incidence in the mid 90's. In 2008 the share of Russians and Ukrainians decreased from 39.5% to 26.5% and 5.5% to 3.2%, respectively, which is a consequence of not only emigration but also due to the processes of depopulation of these ethnic groups in Kazakhstan (see Table 13).

Table 12 – Interregional migration in Astana for 1999 and 2008

Oblast	1999	2008	1999	2008	1999	2008
	in-migration		out-migration		Net-migration	
Total	60533	33696	2924	8019	57609	25677
Akmola oblast	16112	8863	1254	1906	14858	6957
Aktobe oblast	810	611	16	63	794	548
Almaty oblast	2135	908	83	355	2052	553
Atyrau oblast	1058	299	15	76	1043	223
West-Kazakhstan oblast	801	516	15	71	786	445
Jambyl oblast	3593	2622	54	392	3539	2230
Karaganda oblast	7021	3077	247	918	6774	2159
Kostanai oblast	5316	2785	271	729	5045	2056
Kyzylorda oblast	2110	1460	16	319	2094	1141
Mangystau oblast	813	256	30	125	783	131
South-Kazakhstan oblast	6303	4306	220	533	6083	3773
Pavlodar oblast	2494	1296	162	386	2332	910
North-Kazakhstan oblast	2489	1782	214	427	2275	1355
East-Kazakhstan oblast	2294	2564	79	457	2215	2107
Almaty city	7184	2351	248	1262	6936	1089

Source: Analytical notes on Astana city, 2008

In general the representatives of Russian, Ukrainian, German, Tatars, Belorussian nationalities despite the general trends of relatively high birth rate and comparatively young mean age at marriage in the country, they do not adopt the same reproductive behaviour as titular population and already experience quite low fertility and rise of share of population in advanced ages.

Considering all above stated facts it follows that the impact of the capital city's relocation is essential upon interregional migration. Before Astana became the capital city, interregional migration flows had only one major direction towards Almaty, which already was overpopulated with rapidly deteriorating environmental situation because of the car exhaust fumes and factories' emissions, moreover, the group of mostly low educated and unskilled migrants who could not find an employment and necessary subsistence either became a criminal or contribute to growing slum dwellings around Almaty. Besides, while mainly titular nation populated agrarian "South" was growing as a result of a significant share of rural population with high fertility, the industrial, mostly with non–Kazakh population "North" due to the emigration losses and negatively changed reproductive "moods" was depopulating.

Transfer of the capital to Astana changed socio–economic situation not only in Akmola oblast and Akmola city it also had a positive "refreshing" effect on all other nearby located regions like Karaganda, Pavlodar, Kostanai and North–Kazakhstan oblasts.

Table 13 – Ethnic composition of Astana city's population in 1999 and 2008

Nationality	1999	%	2008	%
Total	326939	100.0	602684	100.0
Kazakhs	133585	40.9	372129	61.7
Russians	129480	39.6	159464	26.5
Ukrainians	18070	5.5	19376	3.2
Uzbeks	429	0.1	3912	0.6
Tatars	8286	2.5	11080	1.8
Germans	9591	2.9	9559	1.6
Koreans	2028	0.6	4053	0.7
Belorussians	5761	1.8	5537	0.9
Azerbaijans	902	0.3	1767	0.3
Ingushes	1822	0.5	2393	0.4
Others	16985	5.3	13414	2.3

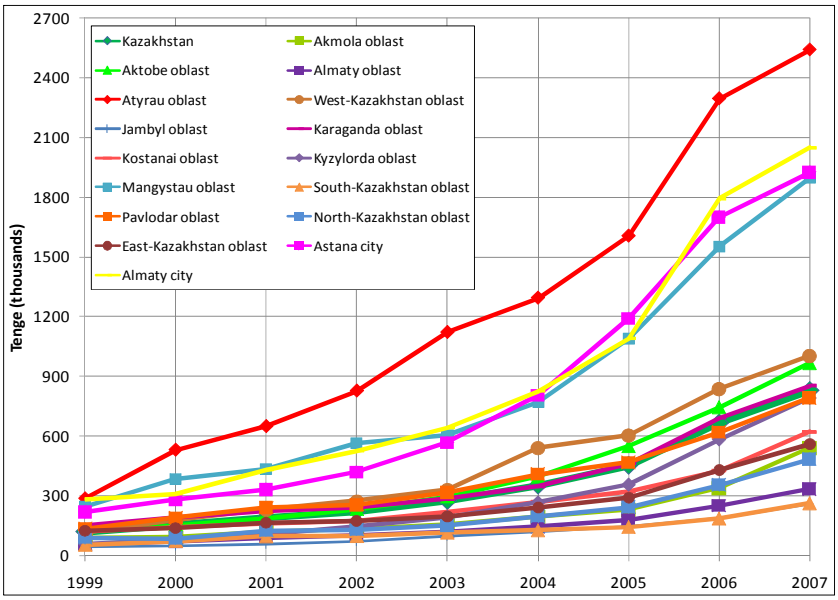
Source: Analytical notes on Astana city, 2008

5.4 Correlation between economic determinants of interregional migration and in and out migration flows

In this section we will investigate the relationship between economic situations in regions and interregional migration. We will use Pearson's correlation in order to find out do interregional migratory flows follow the expected pattern from less developed oblasts to more developed regions and are the differences in socioeconomic development still determining factors for interregional migration?

In the previous chapters we have analysed economic situations in regions and came to conclusion that there is a significant economic inequality between regions and one of the main reasons is Gross Regional Product per capita level's development since 1999. GRP is defined as the market value of all final goods and services produced within a region in a given period of time. Due to the growth of oil prices on the world scale around 2000 the oil–extracting regions of Kazakhstan took advantage of it and have came out on top of GRP per capita levels, especially Atyrau oblast from 289 thousands tenge in 1999 to 2542 thousands in 2007 also Mangystau oblast reached 1896 thousands tenge in 2007 against 249 thousands tenge in 1999. Two municipal districts Astana and Almaty with slight differences in GRP level from year to year performing serious increases, Astana increased it's level, due to booming construction and transfer of administrative function of the capital city, from 220 in 1999 till 1927 thousands tenge in 2007 as well as Almaty city still keeping it's position of the financial and cultural centre of the country, from 284 thousands tenge in 1999 to 2049 thousands tenge in 2007 (see Figure 27)**.** In addition, the boom of oil sector also had a positive effect on other regions in Kazakhstan, all regions experienced growth in the GRP per capita level even agrarian oblasts such as South–Kazakhstan and Almaty, and although in 2007 they only achieved the level of oil–mining oblasts of 1999.

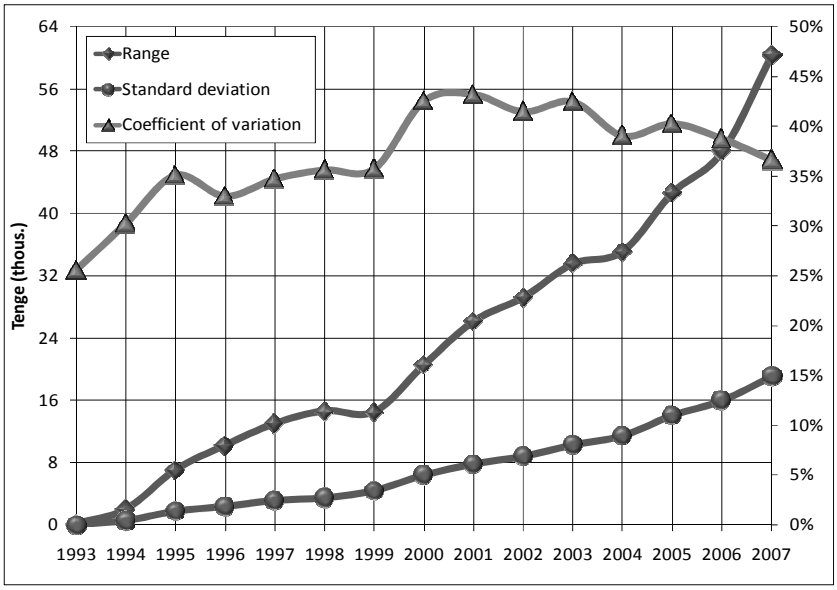
Figure 27 – GRP per capita in tenge (thousands) by regions of Kazakhstan, 1999–2007



Source: Kazakhstan during the independence period 1991–2007

The analysis of the range and the coefficient of variation of the average wage in Kazakhstan for the period 1993–2007 illustrate growing divergence of wages between regions over time due to the fast economic improvements which mainly concerned the oil–mining regions and two municipal cities. However the unfavourable side of such a rapid economic growth of just several numbers of regions and others lagging far behind them contributes to an expansion of disparities between the average wage levels. Range between the lowest average wage and the highest by regions of Kazakhstan in 1999 accounted 14522 tenge, in 2007 it fourfold and reached 60377 tenge, while the coefficient of variation was highest in years 2000 and 2001 and with other two peaks in 2003, 2005 and later the trend is declining again (see Figure 28).

Figure 28 – Characteristics of the average wage in Kazakhstan, 1993–2007



***Notes*:** The figure depicts the coefficient of variation, standard deviation and range of average wages across oblasts in Kazakhstan.

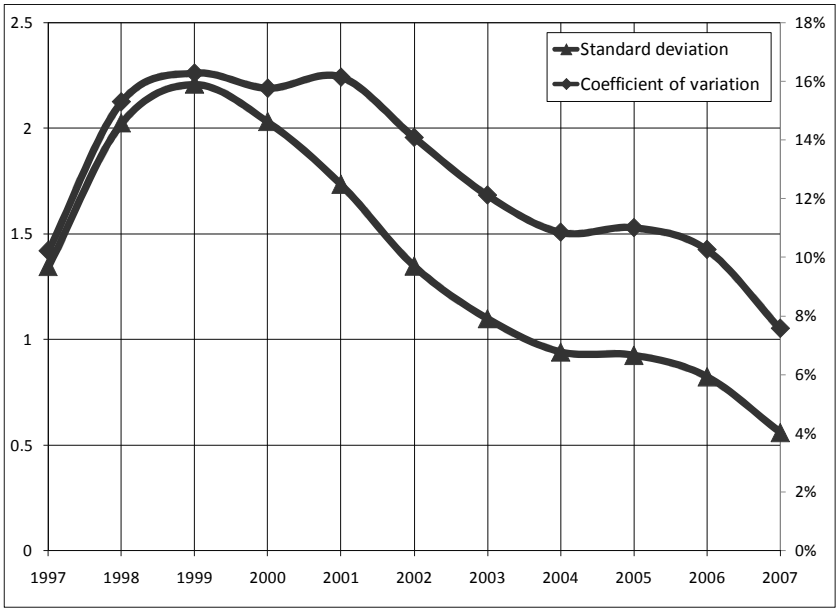
Source: Kazakhstan during the independence period 1991–2007

As for the unemployment rates, from the late 90's regions of Kazakhstan were strongly diverging and since 2002 they were steadily converging with slight increase of the coefficient of variation again in 2005–2006 (see Figure 29) which could be related to an increase of unemployment again in oil–mining oblasts – Mangystau, Aktobe, Kyzylorda.

Such a dramatic increase in wage disparities combining with high unemployment rate differences is very strong "push" factor for workers from depressed regions migrate to more prosperous oblasts with higher wages and better employment opportunities. Taking into consideration all above mentioned we try to examine this question more closely using regression analysis of determinants of interregional migration flows in Kazakhstan for main 14 administrative oblasts and two municipal cities.

According to analysis of the Pearson's correlation coefficient between economic indicators of regions for the period of 1999–2007 the growth of the GRP per capita stimulate raise of the in–migration flows mostly in oil and gas extracting regions such as Atyrau, Aktobe, Mangystau and Kyzylorda where rapid growth of the extractive industry took place. In the rest oblasts the correlation between Gross Regional Product per capita's development and migration in–flows rather moderate.

Figure 29 – Characteristics of the unemployment rate in Kazakhstan, 1997–2007



***Notes*:** The figure depicts the coefficient of variation and standard deviation of unemployment rates across oblasts in Kazakhstan

Source: Kazakhstan during the independence period 1991–2007

Nevertheless, the enhancement of the average wage in regions as a result of economic improvement in the country quite significantly attracts migrants from overpopulated or environmentally disrupted regions to oblasts with promising high salary.

As regard to unemployment rates and intensity of out–migration, then in most regions the correlation is also moderate and insignificant i.e. if an oblast experiences a high unemployment level it will not certainly lead to raise of migrants' out–flow from this region. This could be

explained by the fact that from the second half of the 2000's the range of unemployment was varying around 3% it means there is not really big dispersion between oblasts' values.

Table 14 – Pearson's correlation coefficient between economic indicators of regions for the period of 1999–2007

Oblast	In-migration		Out-migration
	GRP per capita (thou.) tenge	Average wage, tenge	Unemployment rate
Akmola oblast	0.568	0.718(*)	0.733(*)
Aktobe oblast	0.679(*)	0.753(*)	-0.495
Almaty oblast	0.608	0.674(*)	−0.781(*)
Atyrau oblast	0.867(*)	0.879(*)	0.491
West-Kazakhstan oblast	0.489	0.649	-0.259
Jambyl oblast	0.840(*)	0.862(*)	−0.729(*)
Karaganda oblast	0.806(*)	0.865(*)	0.890(*)
Kostanai oblast	0.659	0.746(*)	0.695(*)
Kyzylorda oblast	0.914(*)	0.884(*)	-0.526
Mangystau oblast	0.769(*)	0.777(*)	0.679(*)
South-Kazakhstan oblast	-0.199	-0.238	-0.332
Pavlodar oblast	0.187	0.206	0.589
North-Kazakhstan oblast	0.409	0.479	-0.294
East-Kazakhstan oblast	-0.349	-0.241	-0.437
Astana city	-0.559	-0.616	-0.626
Almaty city	0.647	0.723(*)	0.591

* Correlation is significant at the 0.05 level (2–tailed)

Summarizing we may conclude that there is a clear evidence of migration to prosperous oblasts from regions with surplus labour force and disadvantageous economic situation and as a main pull determinant operate a high average wage level whereas the push factors are working place shortage in oblasts with high fertility and relatively young population and environmental constraints in oblasts with heavy and mining industries.

Conclusion

Findings derived from analyses of the socio–economic situations in region in combination with examination of the interregional migration patterns, based on the central research questions and hypotheses of this paper are presented below.

a) *Which are the main determinants of interregional migration in Kazakhstan?* In general this work showed that GRP per capita and unemployment are moderately important determinants of the regional migration figures because according to the correlation analysis the growth of the GRP per capita led to increase of in–flows during the period of 1999–2008 mainly in regions with gas–and–oil producing industry, in other regions the correlation coefficient between these variable were insignificant and as a result of convergence of regions by unemployment rates in recent years the evidence of the raise of the out–migration with growing unemployment occurred solely in several regions in the country. In contrast average wage and environmental conditions in origin oblasts appeared to be considerably robust determinants in most regions. In this work due to lack of an appropriate data, the analyses of the connection between out–migration and environmental situation in regions are only based on examination of literature on this topic. Also there is no data for all administrative units in order to examine relationship between interregional migration and housing, although we may inference that considering mentality of the Kazakh people, when as a rule the decision to migrate to other region is closely connected to the fact of having some relatives there, the role of available housing in the place of destination is not really significant in case of our country.

b) *Who migrates the most and why?* As regard to age and sex characteristics of the interregional migrants, then the most mobile age group are young adults at working age and people moving for study and marriage purposes. During the last decade the sex composition of migrants have changed in favour of females as a consequence of emancipation and changing attitudes towards nuptiality and fertility also the share of children and people in advanced ages is falling among interregional migrants. As for the educational level and marital status of migrants, then we arrived at a conclusion that people with secondary and higher education are the most mobile group of population and proportion of latter is steadily increasing, at the same time the number of unmarried

people also growing in contrast to married migrants while widowed and divorced of the smallest account.

c) *What are the main regional specifics of the spatial distribution of the population?* Regions of Kazakhstan differ considerably with respect to size and structure of population. The Western and the Southern regions such as South–Kazakhstan, Mangystau, Kyzylorda, Jambyl and Atyrau oblasts have the highest share of young population in both sexes furthermore these regions have the lowest proportion of elderly population e.g. 7.6% in South–Kazakhstan oblast in 2008 while the average share of elderly for the country is 12.1%. All oblasts in the North and East–Kazakhstan oblast which have experienced intensive out–migration during the 90's are depopulating now with highest share of retired population and lowest percentage of children as a result of changed attitudes of the northern women towards childbearing and marriage. Moreover, the proportion of elderly people is higher for females in all regions which is a clear evidence of high mortality among males and closeness of aging process in Kazakhstan. But still, almost in all oblasts of the country share of young adults has increased during the last decade. The most notable rise took place in Astana to 74.4 in 2008 from 65.5 in 1999 for males and to 73.1 from 66.2 respectively for females (see Table 5) of course that is mainly result of interregional migration related to the relocation of the capital city.

I. Relocation of the capital city had a large impact upon directions of the interregional migration and population distribution in Kazakhstan. The role of the capital city's relocation is essential upon interregional migration in the country. Before Astana became the capital city, interregional migration flows had only one major direction towards Almaty, which already was overpopulated with rapidly deteriorating ecological situation because of the car exhaust fumes and factories' emissions, moreover, the group of mostly low educated and unskilled migrants who could not find an employment and necessary subsistence either became a criminal or contribute to growing slum dwellings around Almaty. Besides, while mainly titular nation populated agrarian South was growing as a result of a significant share of rural population with high fertility, the industrial, mostly with non–Kazakh population North due to the emigration losses and negatively changed reproductive "moods" was depopulating. Moreover transfer of the capital to Astana have appreciably changed distribution of population by regions with attracting young and titular population to the oblasts experiencing a significant influence of closeness of the borders with Russia which have certain consequences.

II. Interregional migratory flows follow the expected pattern from less developed areas to more developed areas and the differences in socioeconomic development (expressed in wage levels and indices of well–being) are still determining factors for interregional migration. After the collapse of the Soviet Union and subsequent transition to the market economy with profound negative effects on country's economic situation along with the Soviet legacy led to significant asymmetry between regions' economic and social development in Kazakhstan which have begotten sufficiently high migration flows between regions. Responding to the economic fluctuation in the country the clear evidence of migration to prosperous oblasts from regions with surplus labour force and disadvantageous economic situation is taking place. Furthermore

with relocation of the capital city to the North and development of gas and oil producing industry in the western oblasts the interregional migration directions have diversifying. Three main destinations are distinguishable nowadays – West direction mostly to Atyrau and Mangystau oblasts and two municipal cities Astana as a new capital and Almaty city – the financial and cultural centre of the country and the major donors of migration flows to these target places are agrarian regions in the South – Almaty, Jambyl, South–Kazakhstan oblasts and in the northern oblasts such as Kostanai, North–Kazakhstan, Akmola and Pavlodar.

III. Interregional migration to a considerable extent has an influence upon the regional distribution of the population in Kazakhstan. Interregional migration has quite close connections with the changing economic situation in the country evolving labour mobility and redistribution of productive forces. Kazakhstan having vast territory and sparse population aiming to carry out sustainable economic development is seriously interested in balanced spatial distribution of its population. Although, caused by fluctuations of economy during the period of independence the existence of considerable socio–economic disparities between regions is undoubted and the role of migration in attaining demographic and economic equilibrium in the country outputted in migration of population from regions with high unemployment to oblasts with more job opportunities and from less developed with high fertility and share of young people to areas with declining birth rates and shortage of working aged people yet with better infrastructure, housing and environmental situation is profound. The best indication of that could be a massive south–north population shift instigated by transfer of the capital city with the highest in–migration and net migration rates observed for Astana city.

The poor availability of interregional migration data considerably curtailed the analytical part of this diploma thesis because the present research would have been extended by including socio–demographic variables such as ethnic composition, marital status, educational level with application of age and sex–specific migration rates. It relates to imperfect way of data collection which is result of the lack of skilled professionals in this field in our country.

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